County of San Diego

Stormwater Quality Management Plan (SWQMP)

For Priority Development Projects (PDPs)

Use for all PDPs (see Storm Water Intake Form, Part 4)

Priority Development Project

Project Information		Development type ☐ New development ☒ Redevelopment
Project Name	South Village Storage	
Project Address	28010 Valley Center Road, Valley Center, CA 92082	
Assessor's Parcel # (APN)	186-230-16, 22 and 84	
Permit # / Record ID	PDS2024-LDGRMJ-30505	
Project category (select one)	☒ Commercial	☐ Minor subdivision*
	☐ Industrial	☐ Major subdivision*
	☐ Single family residential lot	☐ Multi-family residential*
	*If residential, is a Homeowners Association (HOA) proposed? ☐ Yes ☐ No	

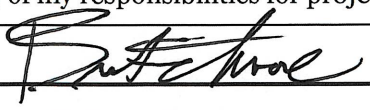
Project Applicant / Project Proponent		
Name	Dave Bohorquez	
Address	28010 Valley Center Road, Valley Center, CA 92082	
Phone	(760) 580-1436	**Email:** davebohorquez@gmail.com

SWQMP Preparer		
Name	Brent C. Moore	
Company (if applicable)	Alidade Engineering	
Address	43950 Margarita Road, Suite 'C', Temecula, CA 92592	
Phone	(951) 587-2020	**Email:** brent-alidade@att.net
PE Number (if applicable)	C59121	

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  **Date** November 13, 2025

COUNTY ACCEPTED

SWQMP Approved By: *Approval Date*:

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

Scope of SWQMP Submittal (Required)

Select the option 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***	Identify below the elements addressed in this submittal and in future submittals.

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

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

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	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
No.	Date	Summary of Change
Final Design		
1	5/2/2024	Initial Submittal
2	12/18/2024	Addressed plan check comments, revised infiltration basin to remove Aquablock
3	11/13/2025	Addressed plan check comments, expanded contributing area to infiltration basin
No.	Date	Summary of Change
Plan Changes		
1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
No.	Date	Summary of Change

PDP SWQMP Submittal Checklist

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

☒ Table 1: Baseline BMPs for Existing and Proposed Site Features ..... Page 2

☒ Table 2: Baseline BMPs for Pollutant-generating Sources ..... Page 3

☒ Table 3: Explanations and Justifications for Table 1 and 2 Baseline BMPs ..... Page 4

☒ Table 4: DMA Structural Compliance Strategies and Documentation ..... Page 5

☒ Table 5: Critical Coarse Sediment Yield Area (CCSYA) Requirements ..... Page 6

☒ Table 6: Minimum Construction Stormwater BMPs ..... Page 7

☒ Table 7: Explanations and Justifications for Construction Phase BMPs ..... Page 8

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: Reserved for Future Use

☐ 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: BMP 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, Submittal Templates.

Table 1 – Baseline BMPs for Existing and Proposed Site Features

A. BMPs for Existing Natural Site Features (See Fact Sheet BL-1)

1. Check the boxes below for each existing feature on the site.

2. Select the BMPs to be implemented for each identified feature. Explain why any BMP not selected is infeasible in Table 3.

	Conserve natural features (SD-G)	Provide buffers around waterbodies (SD-H)
☐ Natural waterbodies	☐	☐
☐ Natural storage reservoirs & drainage corridors	☐	---
☒ Natural areas, soils, & vegetation (incl. trees)	☒	---

B. BMPs for Common Impervious Outdoor Site Features (See Fact Sheet BL-2)

1. Check the boxes below for each proposed feature.

*2. Select the BMPs to be implemented for each proposed feature. If neither BMP **SD-B** nor **SD-I** is selected for a feature, explain why both BMPs are infeasible in Table 3.*

	a. Direct runoff to pervious areas (SD-B)	b. Construct surfaces from permeable materials (SD-I)	c. Minimize the size of impervious areas
☐ Streets and roads	☐	☐	☒ *Check this box to confirm that all impervious areas on the site will be minimized where feasible.*
☒ Sidewalks & walkways	☐	☐	
☒ Parking areas & lots	☐	☐	
☒ Driveways	☐	☐	*If this box is not checked, identify the surfaces that cannot be minimized in Table 3, and explain why it is infeasible to do so.*
☐ Patios, decks, & courtyards	☐	☐	
☐ Hardcourt recreation areas	☐	☐	
☐ Other:	☐	☐	

C. ☒ **BMPs for Rooftop Areas:** *Check this box if rooftop areas are proposed and select at least one BMP below.* **(See Fact Sheet BL-3)**

If no BMPs are selected, explain why they are infeasible in Table 3.

1. Direct runoff to pervious areas (SD-B)	2. Install green roofs (SD-C)	3. Install rain barrels (SD-E)
☐	☐	☐

D. ☒ **BMPs for Landscaped Areas:** *Check this box if landscaping is proposed and select at least one BMP below.* **(See Fact Sheet BL-4)**

If no BMPs are selected, explain why they are infeasible in Table 3.

1. Sustainable Landscaping (SD-K)
☒

Note: All features and BMPs must be shown on applicable construction plans. See applicable Fact Sheets in Appendix C of the BMP Design Manual for additional information.

Note: Use Table 3 to explain BMP infeasibility or inapplicability, or to describe features or BMPs not listed in this table. Additional explanation may be required by the County.

Table 2 – Baseline BMPs for Pollutant-generating Sources

☐ If this is a **Small Residential Project**, check this box and skip the rest of this table.

A. Management of Stormwater Discharges

1. Identify all proposed outdoor work areas below (☐ *Check here if none are proposed*)	**2. Which BMPs will be used to prevent materials from contacting rainfall or runoff?** (See Fact Sheet BL-5) *(Select all feasible BMPs for each work area[2])*			**3. Where will runoff from the work area be routed?** (See Fact Sheet BL-6) *(Select one or more option for each work area)*			
	Overhead covering (rooftops, etc.) (SC-A)	**Separation of flows from adjacent areas (berms, etc.) (SC-B)**	**Wind protection (screens, etc.) (SC-C)**	**Sanitary sewer[3] (SC-D)**	**Containment system (SC-E)**	**Stormwater S-BMP or SSD-BMP[4]**	**Other[5]**
☒ Trash & Refuse Storage	☒	☒	☒	☐	☐	☒	☐
☐ Materials & Equipment Storage	☐	☐	☐	☐	☐	☐	☐
☐ Loading & Unloading	☐	☐	---	☐	☐	☐	☐
☐ Fueling	☐	☐	---	☐	☐	☐	☐
☐ Maintenance & Repair	☐	☐	---	☐	☐	☐	☐
☐ Vehicle & Equipment Cleaning	☐	☐	---	☐	☐	☐	☐
☐ Other:	☐	☐	---	☐	☐	☐	☐

B. Prevention of Non-stormwater Discharges (See Fact Sheet BL-7)

Select one option for each feature below:

• **Storm drain inlets and catch basins …**	☐ are not proposed	☒ will be labeled with stenciling or signage to discourage dumping **(SC-F)**
• **Educational BMP Signage …**	☐ are not proposed	☒ will be labeled with educational signage for BMP **(SC-G)**
• **Interior work surfaces, floor drains, & sumps …**	☒ are not proposed	☐ will not discharge directly or indirectly to the MS4 or receiving waters
• **Drain lines (e.g., air conditioning, boiler, etc.) …**	☐ are not proposed	☒ will not discharge directly or indirectly to the MS4 or receiving waters
• **Fire sprinkler test water …**	☐ are not proposed	☒ will not discharge directly or indirectly to the MS4 or receiving waters

Note: All outdoor features and BMPs in this table must be shown on applicable construction plans. See applicable Fact Sheets in Appendix C of the BMP Design Manual for additional information.

Note: Use Table 3 to explain BMP infeasibility or inapplicability, or to describe features or BMPs not listed in this table. Additional explanation may be required by the County.

[2] Each BMP is required where feasible. If none are selected for any feature, explain why they are infeasible in Table 3.

[3] Separate wastewater agency approvals may be required.

[4] Structural Treatment Control BMPs (S-BMPs) and Significant Site Design BMPs (SSD-BMPs) may not receive discharges from work areas that concentrate pollutants in a manner that will impair their functioning. Discharges from the proposed work area must also be included in DCV calculations for the applicable BMP.

[5] Describe other proposed options for managing stormwater discharges in Table 3.

Table 3 – Explanations and Justifications for Table 1 and 2 Baseline BMPs

☐ **Check here if no explanations or justifications for Table 1 or 2 BMPs are required.**

- **Required Justifications**: Provide explanations of BMP inapplicability and/or infeasibility as indicated per Tables 1 and 2.
- **If Requested**: Justify why specific BMPs will not be implemented or will only be partially implemented.
- **Additional Explanation**: Describe any proposed features and/or BMPs not listed in Tables 1 or 2.

BMP-Feature Combination		Explanation
Feature	Sidewalks & Walkways	Geotechnical Investigation prepared by Geocon Incorporated, dated October 31, 2023 (Project No. G3194-42-01) recommends little to no infiltration into the underlying soils. All runoff will be intercepted and directed to a proposed infiltration basin.
BMP	SD-B & SD-I	
Feature	Parking areas & lots	Geotechnical Investigation prepared by Geocon Incorporated, dated October 31, 2023 (Project No. G3194-42-01) recommends little to no infiltration into the underlying soils. All runoff will be intercepted and directed to a proposed infiltration basin.
BMP	SD-B & SD-I	
Feature	Driveways	Geotechnical Investigation prepared by Geocon Incorporated, dated October 31, 2023 (Project No. G3194-42-01) recommends little to no infiltration into the underlying soils. All runoff will be intercepted and directed to a proposed infiltration basin.
BMP	SD-B & SD-I	
Feature	Rooftop areas	Geotechnical Investigation prepared by Geocon Incorporated, dated October 31, 2023 (Project No. G3194-42-01) recommends little to no infiltration into the underlying soils. All runoff will be intercepted and directed to a proposed infiltration basin.
BMP	SD-B	
Feature	Rooftop areas	Developer would prefer to install standard roofs. Therefore, all runoff will be intercepted and directed to a proposed infiltration basin.
BMP	SD-C	
Feature	Rooftop areas	Due to the nature of self-storage areas typcially being designed with limited space, the additional of rain barrels may impact the drivable accessibility of the project. Therefore, all runoff will be intercepted and directed to a proposed infiltration basin.
BMP	SD-E	
Feature	Feature	Explanation
BMP	BMP	

Table 4: 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]
37,183 sf	136,723 sf	368%

☒ *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 ☒	N/A ☐	Previous SWQMP Submittals (see inside cover) ☐	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 BMP 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 Control 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 5: 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**[6]

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**

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

Table 6 –Minimum Construction Stormwater BMPs

Minimum Required BMPs by Activity Type Select all applicable activities and at least one BMP for each.	References Caltrans[7]	 County of San Diego	
☒ **Erosion Control for Disturbed Slopes** (choose at least 1 per season)			
☐ Vegetation Stabilization Planting[8] (Summer)	SS-2, SS-4		
☒ Hydraulic Stabilization Hydroseeding (Summer)	SS-4		
☒ Bonded Fiber Matrix or Stabilized Fiber Matrix[9] (Winter)	SS-3		
☐ Physical Stabilization Erosion Control Blanket (Winter)	SS-7		
☒ **Erosion control for disturbed flat areas (slope < 5%)**			
☐ County Standard Lot Perimeter Protection Detail	SC-2	PDS 659[10]	
☒ 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[11]	
☐ 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[12]	
☒ **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[13]**			
☒ Waste Management Concrete Waste Management	WM-8		
☒ Solid Waste Management	WM-5		
☒ Sanitary Waste Management	WM-9		
☒ Hazardous Waste Management	WM-6		

[7] See Caltrans 2017 Construction Site Best Management Practices (BMP) Manual available at: https://dot.ca.gov/programs/construction/storm-water-and-water-pollution-control/manuals-and-handbooks
[8] 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.
[9] All slopes over three feet must have established vegetative cover prior to final permit approval.
[10] County PDS 659. Standard Lot Perimeter Protection Design System (Bldg. Division)
[11] County PDS 660. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Bldg. Division
[12] Regional Standard Drawing D-40 – Rip Rap Energy Dissipater (also acceptable for velocity reduction)
[13] Applicants are responsible to apply appropriate BMPs for specific wastes (e.g., BMP WM-8 for concrete).

Table 7 – Explanations and Justifications for Construction Phase BMPs

☒ **Check here if no explanations or justifications for Table 6 BMPs are required.**		
Justifications for Table 6 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 6.		
Activity Type / BMP		**Explanation**
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:	South Village Storage
Record ID (Permit) No(s):	PDS2024-LDGRMJ-30505
Assessor's Parcel No(s):	186-230-16, 22 and 84
Street Address (or Intersection):	28010 Valley Center Road
City, State, Zip:	Valley Center, CA 92082

Part 2. Applicant / Project Proponent Information	
Name:	Dave Bohorquez
Company:	Valley Center Oil Corporation
Street Address:	28010 Valley Center Road
City, State, Zip:	Valley Center, CA 92082
Phone Number	(760) 580-1436
Email:	davebohorquez@gmail.com

Part 3. 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)**
	37,183 sf	136,742 sf	182,677 sf

Ⓑ		
	☒ 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)**

For County Use Only	Reviewed By:	Review Date:
☐ Standard SWQMP	☐ PDP SWQMP	☐ Green Streets PDP Exemption SWQMP

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

Part 4. Priority Classification & SWQMP Form Selection

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

Part 5. Applicant Signature

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] Date: 11/13/25

- ***Upon completion*** *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.*

[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.

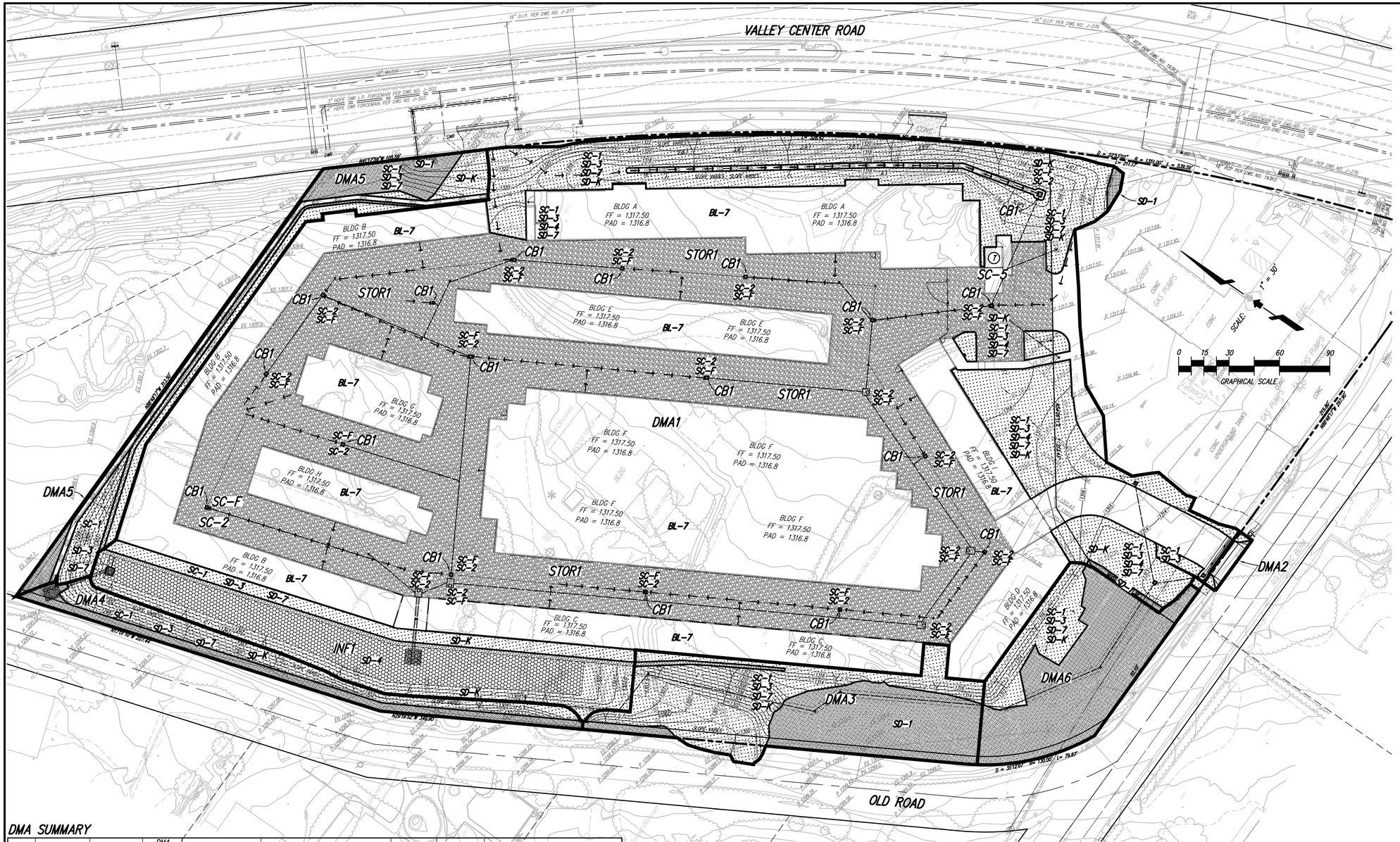
Sub-attachments	Requirement
☒ **2.1: DMA Exhibits**	All PDPs
☒ **2.2: Individual Structural BMP DMA Mapbook**	PDPs with structural BMPs
☒ **2.3: Construction Plan Sets**	All projects

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 #:	**PDS2024-LDGRMJ-30505 SHEET 27**	
A. Features required for all exhibits		
1. Existing Site Features		
☒ Underlying hydrologic soil group (A, B, C, D)	☒ Topography and impervious areas	
☒ Approximate depth to groundwater	☒ Existing drainage network, directions, and offsite connections	
☐ Natural hydrologic features		
2. Drainage Management Area (DMA) Information		
☒ Proposed drainage network, directions, and offsite connections	☒ DMA boundaries, ID numbers, areas, and type (structural BMP, de minimis, etc.)	
3. Proposed Site Changes, Features, and BMPs		
☒ Proposed demolition and grading	☒ Construction BMPs[2]	
☒ Group 1, 2, and 3 Features[1]	☒ Baseline source control BMPs	
☒ Group 4 Features	☒ Baseline source control BMPs	
B. Proposed Features and BMPs Specific to Individual SWQMP Attachments[3]		
☐ Attachment 6	☐ SSD-BMP impervious dispersion areas ☐ SSD-BMP tree wells	
☒ Attachment 7	☒ Structural pollutant control BMPs	
☒ Attachment 8	☒ Structural hydromodification management BMPs ☒ Point(s) of Compliance (POC) for hydromodification management ☒ Proposed drainage boundary and drainage area to each POC	
☒ Attachment 9	☐ Onsite CCSYAs	☐ Bypass of onsite CCSYAs ☐ Bypass of upstream offsite CCSYAs

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



LEGEND

DESCRIPTION	STANDARD SYMBOL
DRAINAGE MANAGEMENT AREA	
STORM DRAIN	
LANDSCAPE AREA DRAIN	
12" X 12" GRATED CATCH BASIN	
18" X 18" GRATED CATCH BASIN (FITTED WITH 7/16" FLOW CONTROL ORIFICES PER DETAIL SHEET 7 OF GRADING PLANS)	
24" X 24" GRATED CATCH BASIN	
36" X 36" GRATED CATCH BASIN	
TYPE 'A' OR 'B' CLEANOUT	C
DEVELOPED IMPERVIOUS AREA	
SUSTAINABLE LANDSCAPED AREA	
PROPOSED INFILTRATION BASIN	
EXISTING UNDISTURBED 'B' SOILS	
LINED GRAVEL PAVE	
DIRECTION OF FLOW	→ → → →
PROPOSED TRASH STORAGE AREA	(7)

SITE DESIGN BMPS

1. SD-2 CONSERVE NATURAL AREAS, SOILS AND VEGETATION: EXISTING ONSITE LANDSCAPING WILL BE PROTECTED IN PLACE TO MAXIMUM EXTENT POSSIBLE IN AREAS THAT ARE DESIGNATED TO BE UNDISTURBED.

2. SD-3 MINIMIZE IMPERVIOUS AREA: PARKING STALLS TO BE CONSTRUCTED TO THE MINIMUM WIDTHS NECESSARY AND STILL MAINTAIN PUBLIC SAFETY. MINIMIZE THE USE OF IMPERVIOUS SURFACES IN THE LANDSCAPE DESIGN.

3. SD-4 MINIMIZE SOIL COMPACTION: COMPACTION TO BE MINIMIZED TO MAXIMUM EXTENT POSSIBLE IN THE PROPOSED LANDSCAPE AREAS.

4. SD-7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES: LANDSCAPE DESIGN WILL INCLUDE NATIVE AND/OR DROUGHT TOLERANT SPECIES.

SOURCE CONTROL BMPS

1. SC-1 PREVENTION OF ILLICIT DISCHARGES INTO THE MS4: LANDSCAPE PLANS WILL INCLUDE EFFECTIVE IRRIGATION TO LIMIT OVER-IRRIGATION. IN ADDITION, THERE ARE NO AREAS ON SITE FOR VEHICLE WASHING.

2. SC-2 STORM DRAIN STENCILING OR SIGNAGE: CONCRETE CATCH BASINS AND CLEAN OUT STRUCTURES WILL BE STENCILED OR HAVE A PLACARD APPLIED TO PROHIBIT ILLEGAL DUMPING.

3. SC-5 PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL: TRASH STORAGE AREAS WILL BE COVERED TO PROTECT FROM RAINFALL AND WALLED TO PREVENT THE OFFSITE TRANSPORT OF TRASH.

4. BL-4 (SD-K) LANDSCAPE AREAS: SUSTAINABLE LANDSCAPING USES NATIVE AND DROUGHT TOLERANT PLANT SPECIES TO LIMIT THE TOTAL WATER DEMAND OF LANDSCAPED AREAS AND CREATE A LIVING SPONGE TO SOAK UP RAINFALL. SELECT DROUGHT TOLERANT AND NATIVE PLANTS FOR SAN DIEGO COUNTY. CREATE HEALTHY SOILS TO ENCOURAGE MOISTURE RETENTION. DESIGN WATER EFFICIENT IRRIGATION SYSTEMS THAT REDUCE THE LIKELIHOOD OF IRRIGATION RUNOFF.

4. BL-7 MANAGEMENT OF NON-STORM WATER DISCHARGES: CATCH BASINS AND CLEAN OUT STRUCTURES WILL BE STENCILED OR HAVE A PLACARD APPLIED TO PROHIBIT ILLEGAL DUMPING (SC-F). RUNOFF FROM ALL DRAIN LINES FROM AIR CONDITIONING UNITS WILL BE DIRECTED TO THE ONSITE PRIVATE STORM DRAIN SYSTEM AND CONVEYED TO THE PROPOSED INFILTRATION BASIN. FIRE SPRINKLER TEST WATER SHALL BE DIRECTED TO THE ONSITE PRIVATE STORM DRAIN SYSTEM AND CONVEYED TO THE PROPOSED INFILTRATION BASIN.

BMP NOTES

1. THESE BMPS ARE MANDATORY TO BE INSTALLED AS SHOWN PER PLAN.
2. NO CHANGES TO THE PROPOSED BMPS ON THIS SHEET WITHOUT PRIOR APPROVAL FROM THE ENGINEERING DEPARTMENT.
3. NO SUBSTITUTIONS TO THE MATERIAL TYPES OR PLANTING TYPES WITHOUT PRIOR APPROVAL FROM THE LAND DEVELOPMENT ENGINEER.
4. NO OCCUPANCY WILL BE GRANTED UNTIL THE COUNTY INSPECTION STAFF HAS INSPECTED THIS PROJECT FOR APPROPRIATE BMP CONSTRUCTION.

GENERAL INFORMATION

RECEIVING WATER – SAN LUIS REY RIVER
POLLUTANTS OF CONCERN – BENTHIC COMMUNITY EFFECTS, BIFENTHRIN, CHLORIDE, INDICATOR BACTERIA, NITROGEN, OXYGEN DISSOLVED, PHOSPHORUS, PYRETHROIDS, TOTAL DISSOLVED SOLIDS AND TOXICITY.

RECEIVING WATER – PACIFIC OCEAN SHORELINE
POLLUTANTS OF CONCERN – INDICATOR BACTERIA

DMA SUMMARY

DMA NAME	DMA SURFACE TYPE	DMA AREA (FT^2)	DMA RUNOFF FACTOR	DMA TYPE	PROPOSED STRUCTURAL BMP TYPE	STRUCTURAL BMP ID	IMP SIZING FACTOR
DMA1	LANDSCAPING	25,248.6	0.10	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	NATURAL 'B'	320.0	0.14	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	IMPERVIOUS	77,312.6	0.90	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	LINED GRAVEL	57,642.7	0.90	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	AGGREGATE	5,576.0	0.30	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
DMA2	IMPERVIOUS	250.0	0.9	DE MINIMIS AREA ULTIMATELY DRAINS TO OLD ROAD.			
	LANDSCAPING	70.0	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
DMA3	LANDSCAPING	6,255.1	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
	IMPERVIOUS	193.6	0.9	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD (LESS THAN 5% OF SELF MITIGATING AREA).			
	NATURAL 'B'	4709.5	0.14				
DMA4	LANDSCAPING	2,994.3	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
	NATURAL 'B'	1,823.5	0.14				
DMA5	LANDSCAPING	3,150.7	0.1	SELF MITIGATING DRAINS TO PROPOSED BROW DITCH THAT OUTLETS TO OLD ROAD.			
	IMPERVIOUS	671.1	0.9	SELF MITIGATING DRAINS TO PROPOSED BROW DITCH THAT OUTLETS TO OLD ROAD (RETAINING WALL THAT EXCEEDS 5% OF SELF MITIGATING AREA). DUE TO SITE CONSTRAINTS, THE RUNOFF FROM THE RETAINING WALL CANNOT BE DIRECTED TO A TREATMENT CONTROL BMP. AS NOTED IN THE CALCULATION THIS SHEET, INF1 IS OVERSIZED TO ALLOW FOR THIS AREA TO BE LEFT UNTREATED.			
	NATURAL 'B'	2,203.1	0.14				
	IMPERVIOUS	1,115.3	0.9	BROW DITCH (STORM WATER CONVEYANCE SYSTEM)			
DMA6	LANDSCAPING	2,070.0	0.1	SELF MITIGATING ULTIMATELY DRAINS TO AN EXISTING CULVERT WHICH CROSSES OLD ROAD.			
	NATURAL 'B'	6,642.0	0.14				

NOTE: SEE SHEETS 5, 6 AND 7 FOR DETAILS OF INFILTRATION BASIN AND STORM DRAIN STRUCTURES

BMP TABLE

BMP ID #	BMP TYPE	SYMBOL	QUANTITY	PLAN NO.	SHEET NO.	INSPECTION FREQUENCY	MAINTENANCE FREQUENCY
INF1	INF-1		5,576 S.F.	PDS2024-LDGRMJ-30505	6, 10, 27	MONTHLY*	AS NEEDED
CB1	PRE-TREATMENT		18 EA	PDS2024-LDGRMJ-30505	7, 8, 9, 10, 11	SEMI-ANNUALLY	AS NEEDED
STOR1	INF-3		57,642.7 S.F.	PDS2024-LDGRMJ-30505	6, 7, 27	MONTHLY*	AS NEEDED

*INSPECT MONTHLY (AT A MINIMUM) AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT.

PROJECT SITE INFO

1. UNDERLYING HYDROLOGIC SOILS ARE TYPE 'B'.
2. APPROXIMATE GROUND WATER DEPTH IS OVER 25 FEET BELOW EXISTING GROUND.
3. THERE ARE NO CRITICAL COARSE SEDIMENT YIELD AREAS ON SITE.
4. THERE ARE NO EXISTING HYDROLOGIC FEATURES ON SITE.

DMA1	DMA AREA (FT^2)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X RUNOFF FACTOR	SOIL TYPE	IMP NAME
	134,955.3	IMPERVIOUS	0.9	121,459.8	B	INF1
	25,248.6	LANDSCAPING	0.1	2,524.9		
	320.0	NATURAL 'B'	0.14	44.8	IMP SIZING FACTOR	MINIMUM AREA OR VOLUME
	5,576.0	AGGREGATE	0.3	1,672.8		PROPOSED AREA OR VOLUME (FT^2)
			TOTAL	125,702.3	0.03	3,771.1	5,576	IMP AREA

BASIN INF1 OVERSIZED FOR MULTIPLE REASONS INCLUDING ACCOUNTING FOR PORTION OF PROPOSED RETAINING WALL THAT CANNOT BE DIRECTED TO A TREATMENT CONTROL BMP.

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No.59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
27		

DMA EXHIBIT FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP27.dwg 01-20-26

2.2 Individual Structural BMP DMA Mapbook

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

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

2.3 Construction Plan Sets

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

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

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

SOUTH VILLAGE STORAGE

GENERAL NOTES:

1. APPROVAL OF THIS GRADING PLAN DOES NOT CONSTITUTE APPROVAL OF VERTICAL OR HORIZONTAL ALIGNMENT OF ANY PRIVATE ROAD SHOWN HEREON FOR COUNTY ROAD PURPOSES.
2. FINAL APPROVAL OF THESE GRADING PLANS SUBJECT TO FINAL APPROVAL OF THE ASSOCIATED IMPROVEMENT PLANS WHERE APPLICABLE. FINAL CURB ELEVATIONS MAY REQUIRE CHANGES IN THESE PLANS.
3. IMPORT MATERIAL SHALL BE OBTAINED FROM A LEGAL SITE.
4. A CONSTRUCTION, EXCAVATION OR ENCROACHMENT PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS WILL BE REQUIRED FOR ANY WORK IN THE COUNTY RIGHT-OF-WAY.
5. ALL SLOPES OVER THREE FEET IN HEIGHT WILL BE PLANTED IN ACCORDANCE WITH SAN DIEGO COUNTY SPECIFICATIONS.
6. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK. NOTICE OF PROPOSED WORK SHALL BE GIVEN TO THE FOLLOWING AGENCIES:

SAN DIEGO GAS & ELECTRIC:	TELEPHONE: (877) 789-9866
AT&T (TELEPHONE):	TELEPHONE: (866) 722-3425
COX (CATV):	TELEPHONE: (619) 262-1122
VALLEY CENTER MUNICIPAL WATER DISTRICT: (SEWER AND WATER)	TELEPHONE: (760) 749-1603

7. A SOILS REPORT MAY BE REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
8. APPROVAL OF THESE PLANS BY THE DIRECTOR OF PUBLIC WORKS DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED AND VALID GRADING PERMIT HAS BEEN ISSUED.
9. THE DIRECTOR OF PUBLIC WORK'S APPROVAL OF THESE PLANS DOES NOT CONSTITUTE COUNTY BUILDING OFFICIAL APPROVAL OF ANY FOUNDATION FOR STRUCTURES TO BE PLACED ON THE AREA COVERED BY THESE PLANS. NO WAIVER OF THE GRADING ORDINANCE REQUIREMENTS CONCERNING MINIMUM COVER OVER EXPANSIVE SOIL IS MADE OR IMPLIED (SECTIONS 87.403 & 87.410). ANY SUCH WAIVER MUST BE OBTAINED FROM THE DIRECTOR OF PLANNING AND LAND USE.
10. ALL OPERATIONS CONDUCTED ON THE PREMISES, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR RUNNING OF TRUCKS, EARTHMOVING EQUIPMENT, AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 AM AND 6:00 PM EACH DAY, MONDAY THRU SATURDAY, AND NO EARTHMOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON THE PREMISES ON SUNDAYS OR HOLIDAYS.
11. ALL MAJOR SLOPES SHALL BE ROUNDED INTO EXISTING TERRAIN TO PRODUCE A CONTOURED TRANSITION FROM CUT OR FILL FACES TO NATURAL GROUND AND ABUTTING CUT OR FILL SURFACES.
12. NOTWITHSTANDING THE MINIMUM STANDARDS SET FORTH IN THE GRADING ORDIANCE AND NOTWITHSTANDING THE APPROVAL OF THESE GRADING PLANS, THE PERMITTEE IS RESPONSIBLE FOR THE PREVENTION OF DAMAGE TO ADJACENT PROPERTY. NO PERSON SHALL EXCAVATE ON LAND SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PUBLIC STREET, SIDEWALK, ALLEY, FUNCTION OF ANY SEWAGE DISPOSAL SYSTEM, OR ANY OTHER PUBLIC OR PRIVATE PROPERTY WITHOUT SUPPORTING AND PROTECTING SUCH PROPERTY FROM SETTLING, CRACKING, EROSION SILTING, SCOUR OR OTHER DAMAGE WHICH MIGHT RESULT FROM THE GRADING DESCRIBED ON THIS PLAN. THE COUNTY WILL HOLD THE PERMITTEE RESPONSIBLE FOR CORRECTION OF NON-DEDICTED IMPROVEMENTS WHICH DAMAGE ADJACENT PROPERTY.
13. SLOPE RATIOS:
    - CUT-2:1 — EXCAVATION: 12,115 CY; FILL: 29,050 CY; UNDERCUTS: 6,145 CY
    - FILL-2:1 — IMPORT: 10,790 CY; GRAVEL: 3,200 CY (GRAVEL FOR GRAVELPAVE2)

    (NOTE: A SEPARATE VALID PERMIT MUST EXIST FOR EITHER WASTE OR IMPORT AREAS BEFORE PERMIT TO BE ISSUED)
14. SPECIAL CONDITION: IF ANY ARCHEOLOGICAL RESOURCES ARE DISCOVERED ON THE SITE OF THIS GRADING DURING GRADING OPERATIONS, SUCH OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE DIRECTOR OF PUBLIC WORKS OF THE DISCOVERY. GRADING OPERATIONS WILL NOT RECOMMENCE UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE DIRECTOR OF PUBLIC WORKS.
15. PERMANENT POST-CONSTRUCTION BMP DEVICES SHOWN ON PLAN SHALL NOT BE REMOVED OR MODIFIED WITHOUT THE APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.
16. ALL GRADING DETAILS WILL BE ACCORDANCE WITH SAN DIEGO COUNTY DESIGN STANDARDS DS-8, DS-10 AND DS-11.
17. THE CONSTRUCTION OF ONE PCC STANDARD RESIDENTIAL DRIVEWAY PER LOT, LOCATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER OF WORK. PCC SURFACING OF DRIVEWAY TO EXTEND FROM CURB TO PROPERTY LINE. USE STANDARD DRAWINGS G-14A, G-14B, G-14C, G-15 AND G-16.
18. FINISHED GRADING SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER AND INSPECTED BY THE COUNTY ENGINEER FOR DRAINAGE CLEARANCE (APPROVAL OF ROUGH GRADING DOES NOT CERTIFY FINISH BECAUSE OF POTENTIAL SURFACE DRAINAGE PROBLEMS THAT MAY BE CREATED BY LANDSCAPING ACCOMPLISHED AFTER ROUGH GRADING CERTIFICATION).

IMPORT/EXPORT EARTHWORK Q > 1,000 C.Y.

PRIOR TO BEGINNING OF GRADING, SUBMIT A TRAFFIC CONTROL PLAN TO ENVIRONMENTAL SERVICE UNIT (ESU) FOR APPROVAL INCLUDING:

1. SPECIFIC TRUCK TRAVEL ROUTES.
2. ANTICIPATED LENGTH OF GRADING PERIOD INVOLVING THE NEED FOR TRUCK IMPORTS OF SOIL.
3. TIME OF OPERATIONS.
4. EXISTING CONDITIONS OF THE IMPACTED ROAD AREAS – INCLUDING TRAFFIC AND ROAD CONDITIONS.
5. TRAFFIC SAFETY INCLUDING SAFETY TO RESIDENTS ON FOOT, ON BICYCLE AND IN VEHICLES, AND POSSIBLE MITIGATION FOR AVOIDANCE OF SIGNIFICANT PEAK HOUR TRAFFIC AT CERTAIN INTERCHANGES, AND
6. INTERCHANGE GEOMETRY TO DETERMINE IF IT WILL ALLOW SAFE USE BY THE TRUCKS.

IMPORTANT NOTICE

Section 4216 of the Government Code requires that a Dig Alert Identification Number be issued before a "Permit to Excavate" will be valid. For your Dig Alert I.D. Number Call Underground Service Alert

TOLL FREE 1-800-422-4133

Two working days before you dig

CONTRACTOR'S NOTE

Construction contractor agrees that in accordance with generally accepted construction practices, construction contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all personsand property; that this requirement shall be made to apply continuously and not be limited to normal working hours, and construction contractor further agrees to defend, indemnify and hold County of San Diego harmless from any and all liability, real or alleged, in connection with theperformance of work on this project, excepting liability arising from the sole negligence of County of San Diego professional.

ENGINEER'S NOTE

UNAUTHORIZED CHANGES & USES: *The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.*

GRADING NOTES:

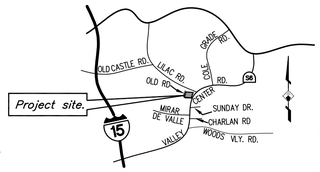
1. GRADING FOR THE PROJECT SHOULD BE ENCOURAGED DURING THE DRY SEASON (MAY 1 THROUGH SEPTEMBER 30). GRADING WHICH OCCURS DURING THE RAINY SEASON (OCTOBER 1 TO APRIL 30) SHALL REQUIRE SPECIAL ENGINEERING TECHNIQUES APPROVED BY THE COUNTY ENGINEER, IN ADDITION TO EROSION CONTROL MEASURES CONTAINED IN THE COUNTY'S LAND DEVELOPMENT ORDINANCE.
2. EMERGENCY EROSION CONTROL MEASURES ARE REQUIRED TO CONTROL SOILS MOVEMENT SATISFACTORY TO THE DIRECTOR OF PUBLIC WORKS IN THE EVENT THE SITE IS EXPOSED TO EROSION DURING THE PERIOD BETWEEN OCTOBER 1ST AND APRIL 30TH. EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, SLOPE PROTECTION, INSTALLATION OF JUTE MATTING OR APPROVED EQUIVALENT, SILTING BASINS, SILT CONTROL GRAVEL BAGGING AND STORM DRAINS.
3. TEMPORARY EROSION CONTROL DEVICES SHOWN ON THE GRADING PLAN WHICH INTERFERE WITH THE WORK SHALL BE RELOCATED OR MODIFIED AS NECESSARY AND WHEN THE INSPECTOR SO DIRECTS AS THE WORK PROGRESSES.
4. BRUSH AND TREES SHALL BE REMOVED ONLY WITHIN THE AREA TO BE GRADED. WHEN TREES ARE REMOVED, THE ROOT SYSTEMS SHALL ALSO BE REMOVED AND THE RESULTING EXCAVATION FILLED WITH PROPERLY COMPACTED FILL SOILS.
5. CUT AND FILL SLOPES SHALL BE TRIMMED TO THE FINISH GRADE TO PRODUCE A SMOOTH AND UNIFORM SURFACE OR CROSS-SECTION. THE SLOPES OF EXCAVATIONS OR EMBANKMENTS SHALL BE SHAPED AND TRIMMED AS DIRECTED BY THE ENGINEER OF WORK AND LEFT IN A NEAT AND ORDERLY CONDITION. ALL STONES, ROOTS, OR OTHER WASTE MATTER EXPOSED ON EXCAVATION OR EMBANKMENT SLOPE SHALL BE REMOVED AND DISPOSED OF.
6. WHERE TRENCHES ARE WITHIN EASEMENTS, SOILS REPORTS SHALL BE SUBMITTED TO THE ENGINEER OF WORK BY A QUALIFIED SOILS ENGINEER WHICH INDICATES THAT TRENCH BACKFILL WAS COMPACTED AS OBSERVED BY THE SOILS ENGINEER IN ACCORDANCE WITH ON-SITE EARTHWORK SPECIFICATIONS.
7. CONTRACTOR WILL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF LOCATION OF EXISTING FACILITIES.
8. CONTRACTOR SHALL NOTIFY THE SAN DIEGO GAS & ELECTRIC COMPANY PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS WORK WITH COMPANY REPRESENTATIVES.
9. CONTRACTOR SHALL NOTIFY AT&T PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS WORK WITH COMPANY REPRESENTATIVES.
10. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
11. CONTRACTOR TO REPLACE ANY DAMAGED OR LOST MONUMENTS PER THE COUNTY OF SAN DIEGO STANDARDS AND PROCEDURES AND TO THE SATISFACTION OF THE DIRECTOR OF PUBLIC WORKS.

STORMWATER MANAGEMENT NOTES:

1. DURING THE RAINY SEASON THE AMOUNT OF EXPOSED SOIL ALLOWED AT ONE TIME SHALL NOT EXCEED THAT WHICH CAN BE ADEQUATELY PROTECTED BY THE PROPERTY OWNER IN THE EVENT OF A RAINSTORM. 125% OF ALL SUPPLIES NEEDED FOR BMP MEASURES SHALL BE RETAINED ON THE JOB SITE IN A MANNER THAT ALLOWS FULL DEPLOYMENT AND COMPLETE INSTALLATION IN 48 HOURS OR LESS OF A FORECAST RAIN.
2. NO AREA BEING DISTURBED SHALL EXCEED 50 ACRES AT ANY GIVEN TIME WITHOUT DEMOSTRATING TO THE SAN DIEGO COUNTY DPW DIRECTOR'S SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURBED AREA THAT IS NOT ACTIVELY GRADED FOR 14 DAYS MUST BE FULLY PROTECTED FROM EROSION. UNTIL ADEQUATE LONG-TERM PROTECTIONS ARE INSTALLED, THE DISTURBED AREA SHALL BE INCLUDED WHEN CALCULATING THE ACTIVE DISTURBANCE AREA. ALL EROSION CONTROL MEASURES SHALL REMAIN INSTALLED AND MAINTAINED DURING ANY INACTIVE PERIOD.
3. THE PROPERTY OWNER IS OBLIGATED TO INSURE COMPLIANCE WITH ALL APPLICABLE STORMWATER REGULATIONS AT ALL TIMES. THE BMP'S (BEST MANAGEMENT PRACTICES) THAT HAVE BEEN INCORPORATED INTO THIS PLAN SHALL BE IMPLEMENTED AND MAINTAINED TO EFFECTIVELY PREVENT THE POTENTIALLY NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORMWATER QUALITY. THE MAINTENANCE OF THE BMP'S IS THE PERMITTEE'S RESPONSIBILITY, AND FAILURE TO PROPERLY INSTALL OR MAINTAIN THE BMP'S MAY RESULT IN ENFORCEMENT ACTION BY THE COUNTY OF SAN DIEGO OR OTHERS. IF INSTALLED BMP'S FAIL, THEY MUST BE REPAIRED OR REPLACED WITH AN ACCEPTABLE ALTERNATE WITHIN 24 HOURS, OR AS SOON AS SAFE TO DO SO.
4. A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND THAT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS0000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE NOI NUMBER ASSIGNED BY SWRCB FOR THIS PROJECT IS NOT YET ASSIGNED, BUT WILL BE PROVIDED BEFORE A PERMIT ISSUED, THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.

ENGINEER-OF-WORK NOTE:

THE ENGINEER-OF-WORK SHALL COMPLY WITH ALL PROJECT APPLICABLE LAWS THAT INCLUDE, BUT ARE NOT LIMITED TO, HEALTH, SAFETY, AND ENVIRONMENTAL LAWS, ORDINANCES, AND REGULATIONS RELATING TO THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, AND U.S. FEDERAL GOVERNMENT. THE PROJECT IS SUBJECT TO ENFORCEMENT UNDER PERMITS FROM THE SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) AND THE COUNTY OF SAN DIEGO WATERSHED PROTECTION, STORM WATER MANAGEMENT, AND DISCHARGE CONTROL ORDINANCE NO. 10410, COUNTY OF SAN DIEGO HYDRAULIC DESIGN MANUAL, AND ALL OTHER APPLICABLE ORDINANCES AND STANDARDS FOR THE LIFE OF THIS PERMIT. THE PROJECT SITE SHALL BE IN COMPLIANCE WITH ALL APPLICABLE STORM WATER REGULATIONS REFERENCED ABOVE AND ALL OTHER APPLICABLE ORDINANCES AND STANDARDS. THIS INCLUDES COMPLIANCE WITH THE APPROVED STORM WATER QUALITY MANAGEMENT PLAN (SWQMP). ALL REQUIREMENTS FOR LOW IMPACT DEVELOPMENT (LID), HYDROMODIFICATION, DETENTION FACILITIES, MATERIALS AND WASTES CONTROL, EROSION CONTROL, AND SEDIMENT CONTROL ON THE PROJECT SITE.



INTERSECTION OF VALLEY CENTER ROAD AND OLD ROAD. 0.0 MILES TO INTERSECTION.

VICINITY MAP

NOT TO SCALE

THOMAS BROS. 1090-E3

PROPOSED LEGEND CONT'D

ITEM	STANDARD DWG	SYMBOL	QUANTITIES
PROP. 8" REDUCED PRESSURE BACKFLOW PREVENTION DEVICE (PVT)	(V.C.M.W.D. W-8)		1 EA
PROP. 1" BACKFLOW PREVENTION DEVICE (PVT)			1 EA
PROP. 1" METER BOX	(V.C.M.W.D. W-3)		1 EA
PROP. 6" FIRE HYDRANT ASSY.	(V.C.M.W.D. W-12)		3 EA
PROP. IRRIGATION SERVICE LATERAL		IRR	1 EA
PROP. WHEEL STOP (PVT)	SEE DETAIL SHEET 5		
PROP. KEYSTONE RETAINING WALL	SEE SHEETS 21-26		11,114 S.F.
PROP. 18" RCP STORM DRAIN (PVT)	SDRSD D-60		58 L.F.
PROP. TYPE 'B' CLEANOUT (PVT).	SDRSD D-8, D-11A, D-11B		4 EA
PROP. MASONRY RETAINING WALL	SEE SHEETS 28-32		487 S.F.

GRADING AND GEOTECHNICAL SPECIFICATIONS:

1. ALL GRADING SHALL BE DONE UNDER OBSERVATION AND TESTING BY A QUALIFIED CIVIL ENGINEER OR GEOTECHNICAL ENGINEER AND, IF REQUIRED, BOTH A QUALIFIED CIVIL ENGINEER OR GEOTECHNICAL ENGINEER AND AN ENGINEERING GEOLOGIST. ALL GRADING MUST BE PERFORMED IN ACCORDANCE WITH APPLICABLE COUNTY ORDINANCE AND THE RECOMMENDATIONS AND SPECIFICATIONS SET FORTH IN THE SOILS REPORT OR GEOLOGICAL/GEOTECHNICAL INVESTIGATION ENTITLED: "GEOTECHNICAL INVESTIGATION, SOUTH VILLAGE STORAGE, VALLEY CENTER ROAD AND OLD ROAD, VALLEY CENTER, CALIFORNIA" DATED OCTOBER 31, 2023 PREPARED BY GEOCON INCORPORATED, PROJECT NO. G3194-42-01
2. ALL FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MOST RECENT VERSION OF A.S.T.M. D-1557 OR AN APPROVED ALTERNATIVE STANDARD.
3. AT THE COMPLETION OF THE GRADING OPERATIONS, AN AS-GRADED SOILS, OR IF REQUIRED, AN AS-GRADED SOILS AND GEOLOGICAL REPORT WILL BE PREPARED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE COUNTY OF SAN DIEGO GUIDELINES FOR GEOTECHNICAL REPORTS. ONE COPY OF THE AS-GRADED REPORT WILL BE SUBMITTED TO THE FIELD INSPECTION SECTION AND THE SUBDIVISION SECTION OF THE COUNTY ENGINEER'S OFFICE WITHIN 15 DAYS OF THE COMPLETION OF GRADING.
4. SOILS ENGINEER CERTIFICATION:

   THIS GRADING PLAN HAS BEEN REVIEWED BY THE UNDERSIGNED AND FOUND TO BE IN CONFORMANCE WITH THE RECOMMENDATIONS AS OUTLINED IN OUR SOILS REPORT FOR THIS PROJECT. THE SOILS REPORT SHALL BE CONSIDERED AS A PART OF THIS PLAN, AND ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF SAID REPORT DATED: OCTOBER 10, 2016.

RUPERT S. ADAMS	CEG 2581 LIC NO.	DATE
ROD MIKESELL, GEOCON INCORPORATED	GE 2533 LIC NO.	DATE (858) 558-6900

ADDRESS: 6960 FLANDERS DRIVE, SAN DIEGO, CA 92121

GEOTECHNICAL NOTES:

1. GEOTECHNICAL ENGINEER OF RECORD SHALL TEST AND APPROVE ALL FILL MATERIAL, PRIOR TO PLACEMENT, TO VERIFY SOILS PARAMETERS, INCLUDING EXPANSIVE INDEX, AND ENSURE THAT THE FILL MATERIAL IS ADEQUATE TO SUPPORT IMPROVEMENTS. TEST RESULTS AND CERTIFICATION LETTER STATING THAT SOIL HAS BEEN TESTED AND IS ADEQUATE TO SUPPORT THE PROPOSED IMPROVEMENTS SHALL BE PROVIDED TO THE COUNTY INSPECTOR.
2. PURSUANT TO COUNTY GRADING ORDINANCE SECTION 87.420 THE GEOTECHNICAL ENGINEER OF RECORD SHALL OBSERVE GRADING OPERATIONS AND PERFORM COMPACTION TESTING AND THE CIVIL ENGINEER OF RECORD SHALL SUPERVISE GRADING OPERATIONS AND SHALL COMPLY WITH THE REPORTING REQUIREMENTS OF COUNTY OF SAN DIEGO GRADING ORDINANCE SECTIONS 87.421 TO 87.430.

NOTE A:

PRIMARY MAINTENANCE OF BIOFILTRATION BASINS, BIO-SWALES, INFILTRATION BASINS INCLUDING STORM DRAIN PIPING, LANDSCAPE AND ANY OTHER TREATMENT CONTROL (TC) BMPS SHOULD BE THE RESPONSIBILITY OF THE DEVELOPER AND LANDOWNER.

NOTICE:

THE ISSUANCE OF THIS PERMIT/APPROVAL BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR THE PERMIT/APPROVAL TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO THE FEDERAL ENDANGERED SPECIES ACT AND CLEAN WATER ACT. GRADING AND/OR FURTHER DEVELOPMENT ARE PROHIBITED WITHIN THE AREAS DESIGNATED "LIMITS OF JURISDICTIONAL HABITAT" UNTIL FEDERAL PERMITS AND STATE PERMITS (IF ANY) HAVE BEEN ACQUIRED.

TRAFFIC CONTROL NOTE:

TRAFFIC CONTROL AND HAUL ROUTE PLANS MUST BE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS, TRAFFIC ENGINEERING SECTION, PRIOR TO STARTING WORK.

DISTURBED AREA CALCS:

DISTURBED AREA = 4.194 ACRES (182,677 S.F.)
TOTAL SITE AREA = 5.338 ACRES (GROSS)
EXISTING IMPERVIOUS AREA = 0.854 ACRES (37,183 S.F.)
DEVELOPED IMPERVIOUS AREA = 3.139 ACRES (136,742 S.F.)

GRADING PLAN NOTE:

NOTICE:

THE ISSUANCE OF THIS PERMIT/APPROVAL BY THE COUNTY OF SAN DIEGO DOES NOT AUTHORIZE THE APPLICANT FOR SAID PERMIT/APPROVAL TO VIOLATE ANY FEDERAL, STATE, OR COUNTY LAWS, ORDINANCES, REGULATIONS, OR POLICIES INCLUDING, BUT NOT LIMITED TO, THE FEDERAL ENDANGERED SPECIES ACT AND ANY AMENDMENTS THERETO.

SUPERVISED GRADING:

THIS PROJECT IS SUBJECT TO SUPERVISED GRADING. THE APPLICANT SHALL HIRE A LICENSED CIVIL ENGINEER TO SERVE AS THE PERMIT COMPLIANCE ENGINEER AND SHALL MEET THE REPORTING REQUIREMENTS OF SECTION 87.422 AND 87.423 OF THE COUNTY OF SAN DIEGO GRADING ORDINANCE. IT SHALL BE THE RESPONSIBILITY OF THE PERMIT COMPLIANCE ENGINEER TO OVERSEE AND COORDINATE ALL FIELD SURVEYS, SETTING OF GRADE STAKES IN CONFORMANCE WITH THE PLANS, AND SITE INSPECTION DURING GRADING OPERATIONS TO ASSURE THAT THE SITE IS GRADED IN ACCORDANCE WITH THIS PERMIT, THIS DIVISION, AND THE SAN DIEGO COUNTY WATERSHED PROTECTION AND STORM WATER MANAGEMENT ORDINANCE. THIS RESPONSIBILITY SHALL NOT INCLUDE THE SUPERINTENDENCY OF THE CONTRACTOR'S EQUIPMENT OR PERSONNEL.

EXISTING LEGEND CONT'D:

ITEM	SYMBOL
EXISTING FENCE/GATE	
EXISTING LANE STRIPING	
EXISTING DG PATH	
EXISTING MEDIAN	

PROPOSED LEGEND

ITEM	STANDARD DWG	SYMBOL	QUANTITIES
PROP. STORM DRAIN (PVT).	(SIZE PER PLAN – 4" TO 12")		1,610 L.F.
PROP. 6" PERFORATED STORM DRAIN (PVT)			1,773 L.F.
PROP. STORM DRAIN CLEANOUT (PVT).	SEE DETAIL SHEETS 5 & 6		14 EA
PROP. CUT/FILL SLOPE		CUT 2:1 FILL	
PROP. 12" X 12" CATCH BASIN (PVT)	SEE DETAIL SHEET 5		1 EA
PROP. 18" X 18" CATCH BASIN (PVT)	SEE DETAIL SHEET 5		16 EA
PROP. 24" X 24" CATCH BASIN (PVT)	SEE DETAIL SHEET 5		1 EA
PROP. 48" X 48" CATCH BASIN (PVT)	SEE DETAIL SHEET 7		1 EA
PROP. MOD TYPE 'A' CLEANOUT (PVT)	SDRSD D-7, D-11A, D-11B		1 EA
PROP. RIPRAP ENERGY DISSIPATOR (PVT)	SDRSD D-40		8 C.Y.
PROP. BLADED SWALE (PVT)	SEE DETAIL SHEET 5		
PROP. LANDSCAPE AREA DRAIN (PVT)	SEE DETAIL SHEET 6		4 EA
PROP. FINISH FLOOR ELEVATION		FF=1317.00	
PROP. PAD GRADE ELEVATION		PAD=1317.0	
PROP. DAYLIGHT LINE/LIMITS OF GRADING			
PROP. BUILDING	SEE ARCHITECTURAL PLANS FOR DETAILS (N.A.P.)		
PROP. FINISH GROUND GRADIENT		2.0%	
PROP. ELEVATION		1308.00	
PROP. RIM ELEVATION		RIM= 1308.00	
PROP. FINISHED GRADE CONTOUR		1308	
PROP. TYPE 'G' C&G (PVT)	SDRSD G-2		49 L.F.
PROP. TYPE 'G' CURB (PVT)	SDRSD G-1		457 L.F.
PROP. PCC CONCRETE (PVT)			852 S.F.
PROP. AC PAVEMENT (PVT)			2,161 S.F.
PROP. PARKING STALLS (PVT)	SEE BUILDING PLANS FOR DETAILS (N.A.P.)		
PROP. CUT/FILL LINE (PVT)		C / F	
PROP. GRAVELPAVE2 (PVT)	SEE DETAILS SHEET 6		57,214 S.F.
PROP. LIGHT (PVT)	BY SEPARATE PERMIT (N.A.P.)		
PROP. TRASH ENCLOSURE (PVT)	SEE ARCHITECTURAL PLANS FOR DETAILS (N.A.P.)	TRASH	
PROP. 1-1/2" SEWER FORCE MAIN (PVT)			56 L.F.
PROP. 4" SEWER SERVICE LATERAL (PVT).		S	1 EA
PROP. FLOW METER (PVT).			1 EA
PROP. GRINDER PUMP (PVT)		O	1 EA
PROP. FIRE SERVICE (PVT).		FS	X EA
PROP. 1" WATER SERVICE LATERAL (PVT)		W	1 EA

*INSTALL PER MANUFACTURER'S SPECIFICATIONS

SHEET INDEX:

1	TITLE SHEET
2	KEY MAP SHEET
3-4	NOTES SHEET
5-7	DETAILS
8-11	GRADING PLAN
12	STORM DRAIN PROFILES
13	EROSION CONTROL PLAN
14-15	HORIZONTAL CONTROL PLAN
16-17	PRIVATE UTILITY PLAN
18-20	STRUCTURAL DETAILS
21-26	RETAINING WALL PLANS
27	DMA EXHIBIT
28-32	RETAINING WALL PLANS

WORK TO BE DONE

GRADING AND DRAINAGE WORK CONSISTS OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, THE CURRENT SAN DIEGO AREA REGIONAL STANDARD DRAWINGS, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2021 EDITION AND PER THE SAN DIEGO COUNTY GRADING ORDINANCE.

STANDARD SPECIFICATIONS:

1. *STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (2018 EDITION), INCLUDING THE REGIONAL SUPPLEMENT AMENDMENT.*
2. *THE MUTCD, 2014 EDITION, INCLUDING THE CALIFORNIA SUPPLEMENT.*
3. *STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS APPROVED 2023.*

STANDARD DRAWINGS:

1. *SAN DIEGO AREA REGIONAL STANDARD DRAWINGS, APPROVED 2022.*
2. *STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS APPROVED 2023.*
3. *COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS, OCTOBER 2012.*

EXISTING LEGEND:

ITEM	SYMBOL
PROPERTY BOUNDARY	
EXISTING RIGHT-OF-WAY	
EXISTING EASEMENT	
EXISTING BRUSH	
EXISTING CONTOUR	1308
EXISTING CONCRETE	CONC
EXISTING TREES	
EXISTING GROUND ELEVATION	1318.8
EXISTING CANOPY	CANOPY
EXISTING BIKE LANE STRIPING	
EXISTING AC ROAD	AC
EXISTING ELECTRICAL FACILITIES	OHE
EXISTING GAS FACILITIES	GAS PUMPS OF OGDEN MH
EXISTING LIGHTS	
EXISTING STORM DRAIN	12" CMP
EXISTING RETAINING WALL	
EXISTING ROLLED AC BERM	ROLLED AC BERM
EXISTING HANDICAP STALL	
EXISTING ROCK OUTCROPPING	ROCKS
EXISTING BUILDING	BLDG
EXISTING CONC DITCH	DITCH
EXISTING WATER FACILITIES	FH
EXISTING SIGN	
EXISTING MAIL BOX	MB
EXISTING CURB AND GUTTER	

OWNER/PERMITTEE CERTIFICATE

IT IS AGREED THAT FIELD CONDITIONS MAY REQUIRE CHANGES TO THESE PLANS.

IT IS FURTHER AGREED THAT THE OWNER (DEVELOPER) SHALL HAVE A REGISTERED CIVIL ENGINEER MAKE SUCH CHANGES ALTERATIONS OR ADDITIONS TO THESE PLANS WHICH THE DIRECTOR OF PUBLIC WORKS DETERMINES ARE NECESSARY AND DESIRABLE FOR THE PROPER COMPLETIONS OF THE IMPROVEMENTS.

I FURTHER AGREE TO COMMENCE WORK ON ANY IMPROVEMENTS SHOWN ON THESE PLANS WITHIN EXISTING COUNTY RIGHT-OF-WAY WITHIN 60 DAYS AFTER ISSUANCE OF THE CONSTRUCTION PERMIT AND TO PURSUE SUCH WORK ACTIVELY ON EVERY NORMAL WORKING DAY UNTIL COMPLETED.

OWNER/PERMITTEE — OWNER: VALLEY CENTER OIL CORPORATION AND DEVELYN, LLC PHONE NO: (760) 580-1436

ADDRESS: P.O BOX 366 VALLEY CENTER, CA 92082

BY: _____ DATE _____ APN(S) 186-230-16, 22 AND 84

DAVE BOHORQUEZ

STORMWATER STRUCTURAL POLLUTANT CONTROL & HYDROMODIFICATION CONTROL BMPS				
DESCRIPTION / TYPE	PLAN SHEET	BMP ID#	MAINTENANCE CATEGORY	MAINTENANCE AGREEMENT RECORDED DOC #
INFILTRATION BASIN	6, 10	INF1	TWO	
CB INLET FILTER FOR PRETREATMENT	7, 8, 9, 10, 11	N/A	N/A	

*BMPS APPROVED AS PART OF STORMWATER QUALITY MANAGEMENT PLAN (SWQMP) DATED ON FILE WITH DPW. ANY CHANGES TO THE ABOVE BMPS WILL REQUIRE SWQMP REVISION AND PLAN CHANGE APPROVALS.

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

FIRE AGENCY

VALLEY CENTER FIRE PREVENTION DISTRICT

APPROVED BY: _____

DATE: _____

ENGINEER OF WORK

NAME: BRENT C. MOORE RCE: 59121 EXPIRES: 6-30-27

PHONE NO: (951)

SOUTH VILLAGE STORAGE

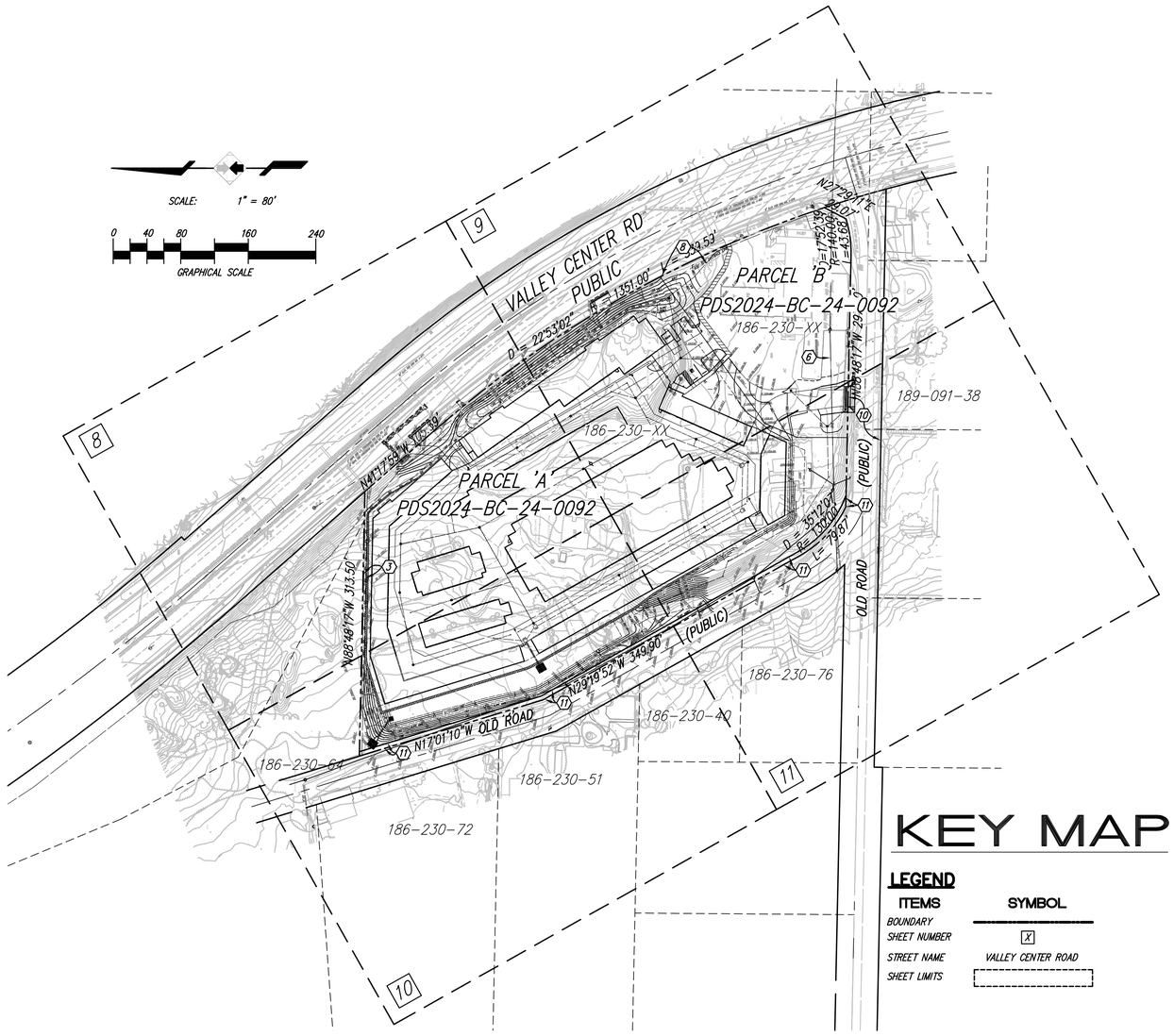
ABBREVIATIONS

AC	ASPHALT CONCRETE
BLDG	BUILDING
BP	BOTTOM OF PIPE
BW	BOTTOM OF WALL
CL	CENTERLINE
C.O.	CLEANOUT
CONC	CONCRETE
C & G	CURB AND GUTTER
CRB	CURB
DIA	DIAMETER
DOC	DOCUMENT
DWG	DRAWING
EX	EXISTING
ELEC	ELECTRICAL
EOP	EDGE OF PAVEMENT
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FS	FINISHED SURFACE
G.B.	GRADEBREAK
HDPE	HIGH DENSITY POLYETHYLENE
H.P.	HIGH POINT
I.E.	INVERT ELEVATION
I.O.D.	IRREVOCABLE OFFER TO DEDICATE
IRR	IRRIGATION
L.P.	LOW POINT
M	METER
MB	MAIL BOX
M.E.	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
N.A.P.	NOT A PART
NO.	NUMBER
K.O.	KNOCKOUT
OHE	OVERHEAD ELECTRICAL
P	PAVEMENT
PERF	PERFORATED
P/L	PROPERTY LINE
POR	PORTION
PP	POWER POLE
PPSD	POLYPROPYLENE STORM DRAIN PIPE
PVT	PRIVATE
RCP	REINFORCED CONCRETE PIPE
SD	STORM DRAIN
S.D.C.O.	STORM DRAIN CLEANOUT
SDRSD	SAN DIEGO REGIONAL STANDARD DRAWINGS
SHT	SHEET
STA	STATION
SWR	SEWER
TC	TOP OF CURB
TC/P	ZERO CURB
TC/FS	ZERO CURB
TEL	TELEPHONE
TF	TOP OF FOOTING
TG	TOP OF GRATE
TP	TOP OF PIPE
TS	TOP OF SITE WALL
TW	TOP OF WALL
TYP	TYPICAL
V	GATE VALVE
VCMWD	VALLEY CENTER MUNICIPAL WATER DISTRICT
W/	WITH
WTR	WATER

SCALE: 1" = 80'

0 40 80 160 240

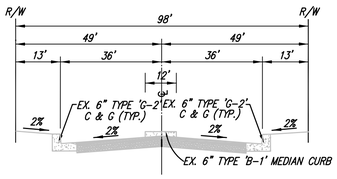
GRAPHICAL SCALE



KEY MAP

LEGEND

ITEMS	SYMBOL
BOUNDARY	
SHEET NUMBER	X
STREET NAME	VALLEY CENTER ROAD
SHEET LIMITS	



VALLEY CENTER ROAD (PUBLIC)

NOT TO SCALE

EASEMENT NOTES:

1. EASEMENT TO AT&T PER DOC. RECORDED 04-28-1910 IN BK 482, PG 418 AND 423 OF DEEDS. THE LOCATION OF SAID EASEMENT IS NOT SET FORTH AND CANNOT BE PLOTTED.
2. ROAD EASEMENT TO THE COUNTY OF SAN DIEGO PER DOC. RECORDED 08-01-1935 IN BK 421, PG 195, O.R. THE LOCATION OF SAID EASEMENT IS NOT SET FORTH AND CANNOT BE PLOTTED.
3. PRIVATE WATER EASEMENT PER DOC. RECORDED 02-20-1973 AS FILE NO. 73-043397, O.R.
4. ROAD EASEMENT TO THE COUNTY OF SAN DIEGO PER DOC. RECORDED 12-10-1886 IN BK 72, PG 195, OF DEEDS. THE LOCATION OF SAID EASEMENT IS NOT SET FORTH AND CANNOT BE PLOTTED.
5. EASEMENT TO THE COUNTY OF SAN DIEGO FOR EXCAVATION AND EMBANKMENTS PER DOC. RECORDED 12-10-34 IN BK 349, PG 377, O.R. THE LOCATION OF SAID EASEMENT IS NOT SET FORTH AND CANNOT BE PLOTTED.
6. EASEMENT TO SDG&E FOR POLES AND WIRES PER DOC. RECORDED 8-5-46 AS FILE NO. 83499, O.R.
7. EASEMENT TO THE COUNTY OF SAN DIEGO FOR EXCAVATION AND EMBANKMENTS PER DOC. RECORDED 10-28-86 AS FILE/PAGE NO. 86-486045, O.R.
8. ORDER OF CONDEMNATION TO THE COUNTY FOR PUBLIC R-O-W AND AN EASEMENT FOR EXCAVATION AND EMBANKMENT SLOPES PER DOC. RECORDED 10-02-2006 AS FILE/PAGE NO. 2006-0700533, O.R.
9. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORD. UNPLOTTABLE.
10. 40' COUNTY ROAD EASEMENT PER DOC. RECORDED IN BK 58, PG 485 OF DEEDS.
11. 5' I.O.D. PER DOC. RECORDED _____ AS DOC. NO. 26-_____ O.R.

POLYPROPYLENE AND HDPE STORM DRAIN PIPE (PPSD) NOTES:

1. PIPE WILL BE BACKFILLED WITH CRUSHED ROCK IN ACCORDANCE WITH SAN DIEGO REGIONAL STANDARD DRAWING D-60. FOR PIPE DIAMETERS 36 INCH AND GREATER, DISTANCE BETWEEN PIPE OD AND TRENCH WALL SHALL BE 12 INCH MINIMUM.
2. THE REMAINDER OF THE TRENCH WILL BE BACKFILLED WITH THE SPECIFIED BACKFILL COMPACTED TO 90 PERCENT RELATIVE COMPACTION PER CALIFORNIA TEST METHOD 216 AS MODIFIED BY THE COUNTY OF SAN DIEGO OR ASTM D1557 (LATEST EDITION) EXCEPT FOR THE PORTION IN THE PAVEMENT SUBGRADE WHICH SHALL BE COMPACTED TO 95 PERCENT RELATIVE COMPACTION.
3. PPSD PIPE WITH LESS THAN 2 FEET OF COVER TO BOTTOM OF FLEXIBLE PAVEMENT UNDER HIGHWAY LOADING SHALL BE ENCASED IN PORTLAND CEMENT CONCRETE (PCC) IN ACCORDANCE WITH REGIONAL STANDARD DRAWING SP-03. THE PORTION ABOVE THE ENCASEMENT SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE ABOVE PARAGRAPH.
4. MAXIMUM PPSD PIPE COVER SHALL NOT EXCEED 25 FEET FOR 12 INCH DIAMETER TO 30 INCH DIAMETER AND 20 FEET FOR 36 INCH DIAMETER TO 60 INCH DIAMETER AS SPECIFIED IN THE CALTRANS POLYPROPYLENE APPROVAL.
5. PPSD PIPE SHALL CONFORM TO CURRENT AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) DESIGNATION M-330, FOR SIZES 12 INCH DIAMETER THROUGH 60 INCH DIAMETER. JOINT SHALL BE WATERTIGHT PER ASTM D.3212 WITH DOUBLE GASKETED SPIGOT AND ELONGATED BELL WITH POLYMER COMPOSITE BAND.
6. THE LAST 16 FEET (2 SECTIONS TYPICALLY) OF CULVERT AT EACH EXPOSED END IS REQUIRED TO BE RCP. THIS WILL NECESSITATE A CONCRETE COLLAR FOR THE PPSD/RCP TRANSITION.
7. DEPTH OF COVER SHOULD BE CONSISTENT WITH CALTRANS TABLE 856.5 OF THE HIGHWAY DESIGN MANUAL – IF LESS COVER IS PROPOSED, PROVIDE CONCRETE ENCASEMENT. IF CALTRANS HAS A NEWER UPDATE, COUNTY WILL REVIEW AND COMMENT.
8. IF THE INSTALLATION IS IN STRICT ACCORDANCE WITH ASTM (OR AASHTO) CRITERIA FOR INSTALLATION, THEN THE ROCK ENVELOPE AND BURRITO WRAP CAN BE ELIMINATED WITH CONCURRENCE OF GEOTECHNICAL ENGINEER AND APPROPRIATE FIELD INSPECTION AND TESTING. IF ROCK ENVELOPE IS TO BE USED TO ALLOW FOR NARROWER TRENCH, THE BURRITO WRAP IS REQUIRED UNLESS A GEOTECHNICAL CONSULTANT IS UTILIZED AND DETERMINES THAT THERE IS NO RISK OF MATERIAL OUTSIDE THE ROCK ENVELOPE MIGRATING INTO THE ROCK.
9. AREAS OF HIGH GROUND WATER TABLE SHOULD BE AVOIDED. A SPECIAL STUDY AND REVIEW BY COUNTY MATERIAL LAB IS REQUIRED FOR AFFECTED PIPES.

ROAD MAINTENANCE NOTE:

THE APPLICANT IS RESPONSIBLE FOR THE ROAD MAINTENANCE (SWEEPING AS NECESSARY) AND REPAIR OF ANY DAMAGE CAUSED BY THEM TO THE ON-SITE AND OFF-SITE COUNTY MAINTAINED OR PRIVATE ROADS THAT SERVE THE PROPERTY EITHER DURING CONSTRUCTION OR SUBSEQUENT OPERATIONS. THE APPLICANT WILL REPAIR THOSE PORTIONS OF THE ROUTE THAT WOULD BE DAMAGED BY THE HEAVY LOADS THAT LOADED TRUCKS PLACE ON THE ROUTE IDENTIFIED.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

TABLE 1705.6
REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUB-GRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY.		X

MONUMENTATION NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL SURVEY CONTROL MONUMENTS, WHETHER SHOWN ON THESE PLANS OR NOT, WITHIN THE PROJECT AREA. ALL SURVEY MONUMENTS, WHETHER FOR HORIZONTAL OR VERTICAL CONTROL, THAT WILL OR COULD BE DISTURBED OR REMOVED BY THE CONTRACTOR, OR HIS EMPLOYEES, AGENTS, SUBCONTRACTORS, CONSULTANT OR LICENSEES, SHALL BE LOCATED PRIOR TO BEING DISTURBED OR REMOVED AND REPLACED OR RESET, IN ACCORDANCE WITH THE CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 8771(b). AT THE CONTRACTOR'S SOLE EXPENSE, UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA. IN ADDITION, A RECORD OF SURVEY OR CORNER RECORD, AS APPLICABLE, SHALL BE FILED AND/OR RECORDED, IN ACCORDANCE WITH THE PROVISIONS OF SAID CODE.

REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No. 59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
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RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
2		

KEY MAP & TYPICAL STREET SECTIONS FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEER'S NAME: ALIDADE ENGINEERING
PHONE NO.:(951) 587-2020

22-324GP02.dwg 01-20-26

EMERGENCY EROSION CONTROL MEASURE NOTES

1. ALL BUILDING PADS TO BE DIKED AND THE DIKES MAINTAINED TO PREVENT WATER FROM FLOWING FROM THE PAD UNTIL THE STREETS AND DRIVEWAYS ARE PAVED AND WATER CAN FLOW FROM THE PADS WITHOUT CAUSING EROSION, OR CONSTRUCT DRAINAGE FACILITIES TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS THAT WILL ALLOW WATER TO DRAIN FROM THE PAD WITHOUT CAUSING EROSION.

2. TOPS OF ALL SLOPES TO BE DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.

3. MANUFACTURED SLOPES AND PADS SHALL BE ROUNDED VERTICALLY AND HORIZONTALLY AS APPROPRIATE TO BLEND WITH THE SURROUNDING TOPOGRAPHY.

4. AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN OCTOBER 1 ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITH A HYDROMULCH MIXTURE OR AN EQUAL TREATMENT APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS BETWEEN OCTOBER 1 AND APRIL 15. APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.

5. CATCH BASINS, DESILTING BASINS AND STORM DRAIN SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS.

6. GRAVEL BAG CHECK DAMS TO BE PLACED IN A MANNER APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS IN UNPAVED STREETS WITH GRADIENTS IN EXCESS OF 2% AND ON OR IN OTHER GRADED OR EXCAVATED AREAS AS REQUIRED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

7. THE DEVELOPER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RELIEVED OF THE SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERCEPTED BY THE SAND BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REPAIR ANY ERODED SLOPES AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

SILTATION AND SEDIMENT CONTROL MEASURES NOTES:

1. THE SEDIMENT BASINS SHALL BE PROVIDED AT THE LOWER END OF EVERY DRAINAGE AREA PRODUCING SEDIMENT RUNOFF. THE BASINS SHALL BE MAINTAINED AND CLEANED TO DESIGN CONTOURS AFTER EVERY RUNOFF PRODUCING STORM. THE BASINS SHOULD BE SEMI-PERMANENT STRUCTURES THAT WOULD REMAIN UNTIL SOIL STABILIZING VEGETATION HAS BECOME WELL ESTABLISHED ON ALL ERODIBLE SLOPES.

2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR APPROVAL OF THE COUNTY ENGINEER.

3. SEWER OR STORM DRAIN TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH SANDBAGS FROM TOP OF PIPE TO TOP OF DIKE.

4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF SANDBAGS WITH A TOP ELEVATION TWO SANDBAGS BELOW THE GRADED SURFACE OF THE STREET. SANDBAGS ARE TO BE PLACED WITH LAPPED COURSES. THE INTERVALS PRESCRIBED BETWEEN SANDBAG BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE BUT NOT TO EXCEED THE FOLLOWING:

GRADE OF THE STREET	INTERVAL
LESS THAN 2%	AS REQUIRED
2% TO 4%	100 FEET
4% TO 10%	50 FEET
OVER 10%	25 FEET

5. AFTER UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A CROWNED STREET.

6. ALL BUILDING PADS SHOULD BE SLOPED TOWARDS THE DRIVEWAYS AND VELOCITY CHECK DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS DRAINING INTO THE STREET.

7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW:

GRADE OF CHANNEL	INTERVALS BETWEEN CHECK DAMS
LESS THAN 3%	100 FEET
3% TO 6%	50 FEET
OVER 6%	25 FEET

8. PROVIDE VELOCITY CHECK DAMS IN ALL PAVED STREET AREAS ACCORDING TO INTERVALS INDICATED BELOW. VELOCITY CHECK DAMS MAY BE CONSTRUCTED OF GRAVEL BAGS, TIMBER, OR OTHER EROSION RESISTANT MATERIALS APPROVED BY THE COUNTY ENGINEER, AND SHALL EXTEND COMPLETELY ACROSS THE STREET OR CHANNEL AT RIGHT ANGLES TO THE CENTERLINE. VELOCITY CHECK DAMS MAY ALSO SERVE AS SEDIMENT TRAPS.

GRADE OF THE STREET	INTERVAL	NUMBER OF BAGS HIGH
LESS THAN 2%	AS REQUIRED 200 FEET MAX.	1
2% TO 4%	100 FEET	1
4% TO 10%	50 FEET	2
OVER 10%	25 FEET	2

9. PROVIDE A GRAVEL BAG SILT BASIN OR TRAP BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING DRAIN SYSTEM.

10. GRAVEL BAGS AND FILL MATERIAL SHALL BE STOCKPILED AT INTERVALS, READY FOR USE WHEN REQUIRED.

11. ALL EROSION CONTROL DEVICES WITHIN THE DEVELOPMENT SHOULD BE MAINTAINED DURING AND AFTER EVERY RUNOFF PRODUCING STORM, IF POSSIBLE, MAINTENANCE CREWS WOULD BE REQUIRED TO HAVE ACCESS TO ALL AREAS.

12. PROVIDE ROCK RIPRAP ON CURVES AND STEEP DROPS IN ALL EROSION PRONE DRAINAGE CHANNELS DOWNSTREAM FROM THE DEVELOPMENT. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENUDED SLOPES, OR FROM IMPERVIOUS SURFACES.

13. ANY PROPOSED ALTERNATE CONTROL MEASURES MUST BE APPROVED IN ADVANCE BY ALL RESPONSIBLE AGENCIES: I.E., COUNTY ENGINEER, DEPARTMENT OF ENVIRONMENTAL HEALTH AND FLOOD CONTROL, OFFICE OF ENVIRONMENTAL MANAGEMENT, ETC.

BMP STENCIL PLACEMENT NOTES

A) ALL STORM DRAIN INLETS AND CATCH BASINS WITHIN THE PROJECT AREA SHALL HAVE A STENCIL OR TILE PLACED WITH PROHIBITIVE LANGUAGE (SUCH AS: "NO DUMPING – I LIVE IN THE PACIFIC OCEAN") AND/OR GRAPHICAL ICONS TO DISCOURAGE ILLEGAL DUMPING.

B) SIGNS AND PROHIBITIVE LANGUAGE AND/OR GRAPHICAL ICONS, WHICH PROHIBIT ILLEGAL DUMPING, MUST BE POSTED AT PUBLIC ACCESS POINTS ALONG CHANNELS AND CREEKS WITHIN THE PROJECT AREA.

C) LEGIBILITY OF STENCILS, TILES AND SIGNS MUST BE MAINTAINED AND TILES MUST BE PLACED FLUSH WITH THE TOP OF CONCRETE TO REDUCE TRIPPING BY PEDESTRIANS.

SPECIAL NOTES

THE FOLLOWING NOTES ARE PROVIDED TO GIVE DIRECTIONS TO THE CONTRACTOR BY THE ENGINEER OF WORK. THE COUNTY ENGINEER'S SIGNATURE ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF ANY OF THESE NOTES, AND THE COUNTY WILL NOT BE RESPONSIBLE FOR THEIR ENFORCEMENT.

1. NEITHER THE OWNER NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
2. CONTRACTOR WILL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS, IF REVISIONS ARE NECESSARY BECAUSE OF LOCATION OF EXISTING FACILITIES. CONTRACTOR SHALL REQUEST DIRECTION BEFORE DOING WORK FROM THE ENGINEER OF WORK FOR CLARIFICATIONS.
3. BEFORE EXCAVATING FOR THIS CONTRACT, VERIFY LOCATION OF UNDERGROUND UTILITIES. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM AVAILABLE RECORDS ONLY AND MAY NOT REFLECT ALL EXISTING UTILITIES. LOCATIONS OF ALL EXISTING UTILITIES SHALL BE CONFIRMED BY FIELD MEASUREMENTS BY CONTRACTOR PRIOR TO CONSTRUCTION OF WORK.
4. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR SHOWN ON THESE PLANS.
5. WHERE TRENCHES ARE ADJACENT TO FUTURE BUILDING SITES, SOILS REPORTS SHALL BE SUBMITTED TO THE ENGINEER OF WORK BY A QUALIFIED SOILS ENGINEER WHICH CERTIFY* THAT ALL TRENCH BACKFILL SHALL BE COMPACTED PER RECOMMENDATIONS IN THE GEOTECHNICAL REPORT FOR THE PROJECT.
   * AS DEFINED IN AND LIMITED IN SECTION 6735.5 OF THE BUSINESS AND PROFESSIONAL CODE OF CALIFORNIA.
6. SAFETY FENCES SHALL BE PROVIDED BY THE CONTRACTOR WHERE REQUIRED BY THE COUNTY ENGINEER.
7. DURING ACTIVE CONSTRUCTION, AREAS SHALL BE WATERED TO REDUCE FUGITIVE DUST.
8. CONTRACTOR TO ADJUST ALL PROPOSED AND EXISTING FACILITIES TO GRADE.
9. CONTRACTOR TO REMOVE/REPLACE/RELOCATE ALL EXISTING FACILITIES REQUIRED TO INSTALL PROPOSED IMPROVEMENTS.
10. CONTRACTOR TO REMOVE/REPLACE/RELOCATE ANY LANDSCAPING/HARDSCAPING WHICH CONFLICTS IN ANY WAY WITH THE INSTALLATION OR PROPER FUNCTIONING OF THE PROPOSED IMPROVEMENTS.
11. ALL PROPOSED STORM DRAIN FACILITIES ARE PRIVATE UNLESS OTHERWISE NOTED.
12. REFER TO ARCHITECT'S PLAN FOR HARDSCAPE LAYOUT & SPECIFICATIONS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE QUANTITIES SHOWN HEREON AND BALANCING THE EARTHWORK ONSITE. IF THE SITE CANNOT BE BALANCED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL IMPORT OR EXPORT OF MATERIALS. ALL ADJUSTMENTS MUST BE PRESENTED TO ENGINEER OF WORK WITH ADEQUATE TIME FOR REVISIONS PRIOR TO CONSTRUCTION. ONLY IN SUCH CASES AS REQUESTED BY THE CONTRACTOR SHALL THE ENGINEER OF WORK PROVIDE AREAS OF ELEVATION ADJUSTMENT TO THE APPROVED PLANS AT THE LIABILITY OF THE CONTRACTOR.
14. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT ALL SLOPES ARE BUILT IN ACCORDANCE WITH THESE PLANS. IF THERE IS ANY QUESTION REGARDING THESE PLANS OR FIELD STAKES, THE CONTRACTOR SHALL REQUEST AN INTERPRETATION BEFORE DOING ANY WORK BY CALLING THE ENGINEER OF WORK.
15. THE CONTRACTOR SHALL UNCOVER ALL UTILITIES THAT MAYBE JOINED, CROSSED, OR PARALLELED TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATION PRIOR TO ANY CONSTRUCTION. ANY CONFLICT OR DISCREPANCY SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO CONSTRUCTION. OTHERWISE THE CONTRACTOR ACCEPTS FULL RESPONSIBILITY FOR ANY ADDITIONAL CONSTRUCTION OR RELOCATION COSTS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, RELOCATING, AND/OR REMOVAL OF EXISTING UTILITIES.
17. THE CONTRACTOR SHALL REPLACE ALL DESTROYED OR DAMAGED SURFACE IMPROVEMENTS WITH IMPROVEMENT EQUAL OR SUPERIOR.
18. SURVEY MONUMENTS SHALL BE PRESERVED & REFERENCED BEFORE CONSTRUCTION & REPLACED AFTER CONSTRUCTION PURSUANT TO SECTION 8771 OF THE BUSINESS AND PROFESSIONS CODE.
19. CONTRACTOR SHALL NOTIFY SAN DIEGO GAS & ELECTRIC, AT&T AND COX COMMUNICATIONS PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND SHALL COORDINATE HIS WORK WITH COMPANY REPRESENTATIVES.
20. CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS WORKING ON THE SITE, INCLUDING GRADING, DRAINAGE, LANDSCAPING AND IRRIGATION.
21. CONTRACTOR SHALL MEET THE INTENT OF THESE PLANS. IF GRADE STAKE CONFLICT WITH THE INTENT OF THE PLANS, CONTRACTOR SHALL NOTIFY ENGINEER OF WORK PRIOR TO WORK BEING PERFORMED.
22. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOUR, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD COUNTY OF SAN DIEGO HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF COUNTY OF SAN DIEGO PERSONNEL.
23. GRADING QUANTITIES ARE GEOMETRIC ESTIMATES FOR PERMIT PURPOSES ONLY AND ARE NOT TO BE USED FOR BID OR FINAL PAY QUANTITIES. CONTRACTOR SHALL BE REQUIRED TO CREATE A FINAL EARTHWORK PRIOR TO ANY ONSITE CONSTRUCTION. THIS EARTHWORK SHALL ACCOUNT FOR SUBSIDENCE, SHRINKAGE, UNDERCUTS, PROJECT PHASING, SEQUENCING, OVER-EXCAVATION AND ET CETERA. SHOULD ANY DISCREPANCY ARISE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WORK IMMEDIATELY.

STABILIZED FIBER MATRIX (SFM)

THE USE OF SFM IS SUBJECT TO THE FOLLOWING LIMITATIONS AND RESTRICTIONS:

1. SFM MAY BE USED FOR TEMPORARY EROSION CONTROL FOR DISTURBED AREAS WITH A SLOPE RATIO OF 1 VERTICAL TO 2 HORIZONTAL OR SHALLOWER, INCLUDING PAD AND SEPTIC FIELD AREAS.

THE SFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL AND SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLIED FROM MULTIPLE DIRECTIONS AND ANGLES)

THE APPLICATION AREA MUST BE PROTECTED BY BROW DITCHES AND OR DIVERSION DIKES AT TOP OF SLOPES TO DIVERT FLOW FROM THE FACE OF THE PROTECTED SLOPE.

FOR PERMANENT EROSION CONTROL PURPOSES, SFM MUST BE INSTALLED IN CONJUCTION WITH SEEDED EROSION CONTROL VEGETATION OR HAND PLANTINGS. AS WITH ALL OTHER APPLICATIONS, SFM WILL NOT BE CONSIDERED PERMANENT UNTIL 70% VEGETATION ESTABLISHMENT.

COVERAGE AND CONCENTRATION: FOR EACH ACRE COVERED, THE MINIMUM APPLICATION VOLUME SHALL BE 10 GALLONS NON-TOXIC WATER-PERMEABLE SOIL-STABILIZING LIQUID EMULSION WITH 3,000 LBS. OF HYDRAULIC MULCH. THE EMULSION MUST BE DESIGNED TO PROTECT SOIL, PREVENT EROSION, AND FLOCCULATE (CLUMP) SEDIMENT.

A LETTER FROM THE HYDROSEED CONTRACTOR CERTIFYING THE SFM WAS INSTALLED IN ACCORDANCE WITH APPROVED APPLICATION RATES, COVERAGE, AND MANUFACTURER'S DILUTION RATIO SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.

OPERATION AND MAINTENANCE PLAN / SWPPP NOTES

1. DISCHARGING SEDIMENT-LADEN WATER WHICH WILL CAUSE OR CONTRIBUTE TO AN EXCEEDANCE OF THE APPLICABLE RWQCB'S BASIN PLANS FROM A DEWATERING SITE OR SEDIMENT BASIN/TRAP INTO ANY RECEIVING WATER OR STORM DRAIN WITHOUT FILTRATION OR EQUIVALENT TREATMENT IS PROHIBITED.

2. THE DISCHARGER SHALL AMEND THE SWPPP WHENEVER THERE IS A CHANGE IN CONSTRUCTION OR OPERATIONS, WHICH MAY AFFECT THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS, GROUNDWATER, OR A MUNICIPAL STORM DRAIN SYSTEM. THE SWPPP SHALL ALSO BE AMENDED IF THE DISCHARGER VIOLATES ANY CONDITION OF THE GENERAL PERMIT OR HAS NOT ACHIEVED THE GENERAL OBJECTIVE OF REDUCING OR ELIMINATING POLLUTANTS IN STORM WATER DISCHARGES. ALL AMENDMENTS SHOULD BE DATED AND DIRECTLY ATTACHED TO THE SWPPP.

3. TEMPORARY ON-SITE DRAINAGE TO CARRY CONCENTRATED FLOW SHALL BE SELECTED TO COMPLY WITH COUNTY REQUIREMENTS TO CONTROL EROSION, TO RETURN FLOWS TO THEIR NATURAL DRAINAGE COURSES, AND TO PREVENT DAMAGE TO DOWNSTREAM PROPERTIES.

4. DISCHARGES ORIGINATING FROM OFF-SITE, WHICH FLOW ACROSS OR THROUGH AREAS DISTURBED BY CONSTRUCTION THAT MAY CONTAIN POLLUTANTS, SHOULD BE REPORTED TO THE RWQCB.

5. DISCHARGERS WHO ARE PRESENTLY COVERED UNDER NPDES GENERAL PERMIT NO. CAS000002 FOR DISCHARGE OF STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY MAY SUBMIT A NOTICE OF TERMINATION WHEN THEY MEET ONE OF THE FOLLOWING CRITERIA.

   A. THE CONSTRUCTION PROJECT HAS BEEN COMPLETED AND THE FOLLOWING CONDITIONS HAVE BEEN MET: ALL ELEMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN HAVE BEEN COMPLETED; CONSTRUCTION MATERIALS AND EQUIPMENT MAINTENANCE WASTE HAVE BEEN DISPOSED OF PROPERLY; THE SITE IS IN COMPLIANCE WITH ALL LOCAL STORM WATER MANAGEMENT REQUIREMENTS INCLUDING EROSION/SEDIMENT CONTROL REQUIREMENTS AND THE APPROPRIATE USE PERMITS HAVE BEEN OBTAINED; AND A POST-CONSTRUCTION STORM WATER OPERATION AND MANAGEMENT PLAN IS IN PLACE.

   B. CONSTRUCTION ACTIVITIES HAVE BEEN SUSPENDED, EITHER TEMPORARILY OR INDEFINITELY AND THE FOLLOWING CONDITIONS HAVE BEEN MET: ALL ELEMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN HAVE BEEN COMPLETED; CONSTRUCTION MATERIALS AND EQUIPMENT MAINTENANCE WASTE HAVE BEEN DISPOSED OF PROPERLY; ALL DENUDED AREAS AND OTHER AREAS OF POTENTIAL EROSION ARE STABILIZED; AN OPERATION AND MAINTENANCE PLAN FOR EROSION AND SEDIMENT CONTROL IS IN PLACE; AND THE SITE IS IN COMPLIANCE WITH ALL LOCAL STORM WATER MANAGEMENT REQUIREMENTS INCLUDING EROSION/SEDIMENT CONTROL REQUIREMENTS. THE DATE CONSTRUCTION ACTIVITIES WERE SUSPENDED, AND THE EXPECTED DATE CONSTRUCTION ACTIVITIES WILL START UP AGAIN SHOULD BE PROVIDED.

   C. CONSTRUCTION SITE CAN NOT DISCHARGE STORM WATER TO WATERS OF THE UNITED STATES. PLEASE INDICATE IF ALL STORM WATER IS RETAINED ON SITE OR IF STORM WATER IS COLLECTED OFFSITE.

   D. DISCHARGE OF CONSTRUCTION STORM WATER FROM THE SITE IS NOW SUBJECT TO ANOTHER NPDES GENERAL PERMIT OR AN INDIVIDUAL NPDES PERMIT. THE GENERAL PERMIT OR INDIVIDUAL PERMIT NPDES NUMBER AND DATE COVERAGE BEGAN SHOULD BE PROVIDED.

   E. THERE IS A NEW OWNER OF THE IDENTIFIED SITE. IF OWNERSHIP OR OPERATION OF THE FACILITY HAS BEEN TRANSFERRED THEN THE PREVIOUS OWNER MUST SUBMIT A NOTICE OF TERMINATION AND THE NEW OWNER MUST SUBMIT A NOTICE OF INTENT FOR COVERAGE UNDER THE GENERAL PERMIT. THE DATE OF TRANSFER AND INFORMATION ON THE NEW OWNER SHOULD BE PROVIDED. NOTE THAT THE PREVIOUS OWNER MAY BE LIABLE FOR DISCHARGE FROM THE SITE UNTIL THE NEW OWNER FILES A NOTICE OF INTENT FOR COVERAGE UNDER THE GENERAL PERMIT.

6. SEDIMENT CONTROL BMP'S ARE REQUIRED AT APPROPRIATE LOCATIONS ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL INLETS TO THE STORM DRAIN SYSTEM AT ALL TIMES.

7. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ADEQUATE SEDIMENT CONTROL MATERIALS ARE AVAILABLE TO CONTROL SEDIMENT DISCHARGES AT THE DOWNGRADE PERIMETER AND OPERATIONAL INLETS (WEATHER AND STORM PREDICTIONS CAN BE OBTAINED BY CALLING THE NATIONAL WEATHER SERVICE AT (858) 675-8700 OR BY VISITING THE NATIONAL WEATHER SERVICE WEB SITE AT HTTP://WWW.WRH.NOAA.GOV/SANDIEGO/INDEX.SHTML. FOR WEATHER INFORMATION AND CURRENT SATALITE/RADAR FEEDS).

8. THE OUTLETS OF ALL SEDIMENT BASINS, TRAPS, AND LOCATIONS OF ARTIFICIALLY CONCENTRATED FLOW SHALL BE PROVIDED WITH OUTLET PROTECTION TO PREVENT EROSION AND SCOUR.

9. INSPECTIONS SHALL BE PERFORMED BEFORE AND AFTER STORM EVENTS AND ONCE EACH 24-HOUR PERIOD DURING EXTENDED STORM EVENTS TO IDENTIFY BMP EFFECTIVENESS AND IMPLEMENT REPAIRS OR DESIGN CHANGES AS SOON AS FEASIBLE, DEPENDING ON FIELD CONDITIONS. EQUIPMENT, MATERIALS, AND WORKERS MUST BE AVAILABLE FOR RAPID RESPONSE TO FAILURES AND EMERGENCIES. ALL CORRECTIVE MAINTENANCE TO BMP'S SHALL BE PERFORMED AS SOON AS POSSIBLE AFTER THE CONCLUSION OF EACH STORM, DEPENDING UPON WORKER SAFETY.

10. FOR EACH INSPECTION, A QUALIFIED PERSON SHALL COMPLETE AN INSPECTION CHECKLIST CONTAINING THE FOLLOWING MINIMUM INFORMATION: INSPECTION DATE, WEATHER INFORMATION (BEGINNING/END OF STORM EVENT, DURATION, TIME SINCE LAST STORM, APPROXIMATE RAINFALL IN INCHES), DESCRIPTION OF INADEQUATE BMP'S, LIST OF OBSERVATIONS OF ALL BMP'S AND VISIBLE INSPECTION OF OUTFALLS, DISCHARGE POINTS, DOWNSTREAM LOCATIONS, AND PROJECTED REQUIRED MAINTENANCE ACTIVITIES, CORRECTIVE ACTIONS REQUIRED, INCLUDING CHANGES TO THE SWPPP AND IMPLEMENTATION DATES, INSPECTOR'S NAME, TITLE, SIGNATURE, AND QUALIFICATIONS.

11. INDIVIDUALS RESPONSIBLE FOR SWPPP, IMPLEMENTATION, AND PERMIT COMPLIANCE SHALL BE APPROPRIATELY TRAINED. THIS INCLUDES THOSE PERSONNEL RESPONSIBLE FOR INSTALLATION, INSPECTION, MAINTENANCE, AND REPAIR OF BMP'S. THOSE RESPONSIBLE FOR OVERSEEING, REVISING, AND AMENDING THE SWPPP SHALL ALSO DOCUMENT THEIR TRAINING. THE QUALIFIED PERSON SHALL ATTEND THE PRE-CONSTRUCTION MEETING. THE QUALIFIED PERSON SHALL HAVE KNOWLEDGE AND TRAINING OF THE INTENT AND ENFORCEMENT OF SWPPP'S AND BMP'S AND BE PROPERLY TRAINED TO CONDUCT INSPECTIONS AND PREPARE REPORTS OF THE CONSTRUCTION SITE WITH RESPECT TO THE COUNTY'S GRADING ORDINANCE AND THE SWPPP.

12. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE SWPPP AT THE CONSTRUCTION SITE, WHICH SHALL BE PROVIDED, UPON REQUEST, TO THE RWQCB OR CITY PERSONNEL. THE SWPPP IS CONSIDERED A REPORT THAT SHALL BE AVAILABLE TO THE PUBLIC BY THE RWQCB UNDER SECTION 308(B) OF THE CLEAN WATER ACT.

GREEN BUILDING CODE REQUIREMENT

1.0 100% OF TREES, STUMPS, ROCKS, AND ASSOCIATED VEGETATION AND SOILS RESULTING PRIMARILY FROM LAND CLEARING SHALL BE REUSED OR RECYCLED UNLESS SUCH MATERIAL IS CONTAMINATED BY DISEASE OR PEST INFESTATION.

OPER AND MAINT. PLAN / SWPPP NOTES (CONT)

13. RECORDS OF ALL INSPECTIONS, COMPLIANCE CERTIFICATIONS, NONCOMPLIANCE REPORTING, SWPPP AND ANY OTHER DOCUMENTS GENERATED AS PART OF SWPPP, MUST BE RETAINED FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE GENERATED.

14. A CONCRETE WASHOUT SHALL BE INSTALLED FOR ALL PROJECTS THAT PROPOSE CONCRETE TO BE MIXED ON SITE OR DELIVERED FROM A BATCH PLANT. THE CONCRETE WASHOUT SHALL BE LOCATED A MINIMUM OF 50' FROM ANY DRAINAGE INFRASTRUCTURE OR NATURAL DRAINAGE FEATURES OR WATERBODIES AND INCORPORATE ANY PERMEABLE LINER (6 MIL MIN) TO CONTAIN THE REQUIRED VOLUME. ALL DRIED CONCRETE WASTE SHALL BE BROKEN INTO MANAGEABLE PIECES AND DISPOSED OF IN A PROPER MANNER. THE CONTRACTOR OR QUALIFIED PERSON SHALL LOCATE CONCRETE WASHOUTS IN THIS PRESCRIBED MANNER AS CONSTRUCTION PROGRESSES.

15. THE QUALIFIED PERSON SHALL CONDUCT REGULAR INSPECTIONS OF THE PROJECT SITE IN ACCORDANCE WITH RECOMMENDATIONS OUTLINED IN THE SWPPP. EACH INSPECTION SHALL BE DOCUMENTED IN THE FORM OF WRITTEN REPORTS RETAINED ON SITE. ALL REPORTS SHALL BE MADE AVAILABLE TO THE COUNTY OF SAN DIEGO AND RWQCB REPRESENTATIVES UPON REQUEST.

16. THE CONTRACTOR SHALL HAVE EMERGENCY MATERIALS AND EQUIPMENT ON HAND FOR UNFORESEEN SITUATIONS, SUCH AS DAMAGE TO UNDERGROUND WATER AND SEWER UTILITIES WHEREBY FLOWS MAY GENERATE EROSION AND SEDIMENT POLLUTION.

17. "THE PERMITTEE OR DESIGNEE SHALL PROVIDE EVIDENCE OF COVERAGE UNDER THE GENERAL CONSTRUCTION NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT, IN THE FORM OF A NOTICE OF INTENT (NOI) FILED WITH THE STATE WATER RESOURCES CONTROL BOARD, PRIOR TO ISSUANCE OF ANY CONSTRUCTION PERMITS."

18. SEDIMENT AND EROSION CONTROLS MAY BE REMOVED ONLY WHEN CONTRIBUTARY UPSTREAM AREAS BECOME STABILIZED OR ARE MANAGED UPSTREAM (I.E. SINGLE-LOT SEDIMENT CONTROLS) AND AS LONG AS SEDIMENT LADEN RUNOFF WILL NOT DISCHARGE FROM THE SITE.

19. WHEN FUTURE WORK BY THE DEVELOPER NOT SHOWN ON THIS PLAN IS TO BE PERFORMED, THE SWPPP SHALL BE AMENDED TO INCLUDE SAID WORK AND ANY ADDITIONAL WATER QUALITY CONTROL MEASURES REQUIRED.

20. WHEN OWNERSHIP CHANGES FOR PORTIONS OF THE SITE OR THE LIMITS OR NATURE OF WORK ARE ALTERED, THE DEVELOPER SHALL FILE A CHANGE OF INFORMATION (COI) OR A REVISED NOTICE OF INTENT (NOI), RESPECTIVELY, WITH THE RWQCB AND SWRCB, RESPECTIVELY.

21. THIS PLAN SHALL BE IN EDDECT UNTIL ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED, TRANSFERRED TO NEW OWNERSHIP, OR DEVELOPED UNDER FUTURE PLANS WITH ANY NEW NOI, SWPPP, AND WDID NUMBER.

INFILTRATION FACILITIES OR PRACTICES

THE OPERATIONAL AND MAINTENANCE NEEDS OF AN INFILTRATION FACILITY ARE:

1. ACCUMULATION OF SEDIMENT, LITTER OR DEBRIS – INSPECT MONTHLY. REMOVE AND PROPERLY DISPOSE OF ACCUMULATED MATERIALS..
2. OBSTRUCTED INLET OR OUTLET STRUCTURE – INSPECT MONTHLY AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. CLEAR BLOCKAGE.
3. EROSION DUE TO CONCENTRATED IRRIGATION FLOW – INSPECT MONTHLY. REPAIR/RE-SEED/RE-PLANT ERODED AREAS OF THE FACILITY SLOPES AND ADJUST THE IRRIGATION SYSTEM.
4. EROSION DUE TO CONCENTRATED STORM WATER RUNOFF FLOW – INSPECT AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. IF EROSION DUE TO STORM WATER FLOW HAS BEEN OBSERVED, INCREASE INSPECTION FREQUENCY TO 0.1-INCH OR LARGER STORM EVENT. REPAIR/RE-SEED/RE-PLANT ERODED AREAS OF THE FACILITY SLOPES AND MAKE APPROPRIATE CORRECTIVE MEASURES SUCH AS ADDING EROSION CONTROL BLANKETS, ADDING STONE AT FLOW ENTRY POINTS, OR MINOR RE-GRADING TO RESTORE PROPER DRAINAGE ACCORDING TO THE ORIGINAL PLAN.
5. STANDING WATER IN INFILTRATION BASIN FOR LONGER THAN 24-96 HOURS FOLLOWING A STORM EVENT – INSPECT MONTHLY AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. IF STANDING WATER IS OBSERVED, INCREASE INSPECTION FREQUENCY TO AFTER EVERY 0.1-INCH OR LARGER STORM EVENT. IF IT HAS BEEN DETERMINED THAT THE UNDERLYING SOILS HAVE BEEN COMPACTED OR DO NOT HAVE THE INFILTRATION CAPACITY EXPECTED, THE COUNTY REVIEWER SHALL BE CONTACTED PRIOR TO ANY ADDITIONAL REPAIRS OR RECONSTRUCTION.
6. PRESENCE OF MOSQUITOS/LARVAE – INSPECT MONTHLY AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT. IF MOSQUITOS ARE OBSERVED, INCREASE INSPECTION FREQUENCY TO AFTER EVERY 0.1-INCH OR LARGER STORM EVENT. IF MOSQUITOS/LARVAE ARE OBSERVED, FIRST REMOVE ANY STANDING WATER BY DISPERSING TO NEARBY LANDSCAPING; SECOND, MAKE CORRECTIVE MEASURES AS APPLICABLE TO RESTORE BMP DRAINAGE TO PREVENT STANDING WATER. IF MOSQUITOS PERSIST FOLLOWING CORRECTIVE MEASURES TO REMOVE STANDING WATER OR IF THE BMP DOES NOT MEET THE 96-HOUR DRAW DOWN CRITER

GRADING PLAN NOTES:

PRE-CONSTRUCTION GRADING AND/OR IMPROVEMENTS: (PRIOR TO ANY CLEARING, GRUBBING, TRENCHING, GRADING, OR ANY LAND DISTURBANCES.)

CULT#GR-1 – ARCHAEOLOGICAL MONITORING – PRECONSTRUCTION MEETING
INTENT: IN ORDER TO COMPLY WITH THE COUNTY OF SAN DIEGO GUIDELINES FOR SIGNIFICANCE – CULTURAL RESOURCES, AN ARCHAEOLOGICAL MONITORING PROGRAM SHALL BE IMPLEMENTED. DESCRIPTION OF REQUIREMENT: THE COUNTY APPROVED PROJECT ARCHAEOLOGIST AND LUISENO NATIVE AMERICAN MONITOR SHALL ATTEND THE PRE-CONSTRUCTION MEETING WITH THE CONTRACTORS TO EXPLAIN AND COORDINATE THE REQUIREMENTS OF THE ARCHAEOLOGICAL MONITORING PROGRAM. THE PROJECT ARCHAEOLOGIST AND LUISENO NATIVE AMERICAN MONITOR SHALL MONITOR THE ORIGINAL CUTTING OF PREVIOUSLY UNDISTURBED DEPOSITS IN ALL AREAS IDENTIFIED FOR DEVELOPMENT INCLUDING OFF-SITE IMPROVEMENTS. THE PROJECT ARCHAEOLOGIST AND LUISENO NATIVE AMERICAN MONITOR SHALL ALSO EVALUATE FILL SOILS TO DETERMINE THAT THEY ARE CLEAN OF CULTURAL RESOURCES. THE ARCHAEOLOGICAL MONITORING PROGRAM SHALL COMPLY WITH THE COUNTY OF SAN DIEGO GUIDELINES FOR DETERMINING SIGNIFICANCE AND REPORT FORMAT AND CONTENT REQUIREMENTS FOR CULTURAL RESOURCES. DOCUMENTATION: THE APPLICANT SHALL HAVE THE CONTRACTED PROJECT ARCHEOLOGIST AND LUISENO NATIVE AMERICAN ATTEND THE PRECONSTRUCTION MEETING TO EXPLAIN THE MONITORING REQUIREMENTS. TIMING: PRIOR TO ANY CLEARING, GRUBBING, TRENCHING, GRADING, OR ANY LAND DISTURBANCES THIS CONDITION SHALL BE COMPLETED. MONITORING: THE [DPW, PDC] SHALL CONFIRM THE ATTENDANCE OF THE APPROVED PROJECT ARCHAEOLOGIST.

BIO#GR-1–RESOURCE AVOIDANCE
INTENT: IN ORDER TO AVOID IMPACTS TO RAPTORS AND MIGRATORY BIRDS, WHICH ARE A SENSITIVE BIOLOGICAL RESOURCE PURSUANT TO THE MIGRATORY BIRD TREATY ACT, A RESOURCE AVOIDANCE AREA (RAA) SHALL BE IMPLEMENTED ON ALL PLANS. DESCRIPTION OF REQUIREMENT: THERE SHALL BE NO BRUSHING, CLEARING AND/OR GRADING SUCH THAT NONE WILL BE ALLOWED WITHIN 300 FEET OF HABITAT DURING THE BREEDING SEASON OF THE RAPTOR AND MIGRATORY BIRDS. THE BREEDING SEASON IS DEFINED AS OCCURRING BETWEEN JANUARY 15TH AND AUGUST 31ST. THE DIRECTOR OF PDS [PDS, PCC] MAY WAIVE THIS CONDITION, THROUGH WRITTEN CONCURRENCE FROM THE US FISH AND WILDLIFE SERVICE AND THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, PROVIDED THAT NO RAPTORS OR MIGRATORY BIRDS ARE PRESENT IN THE VICINITY OF THE BRUSHING, CLEARING OR GRADING AS DEMONSTRATED BY A SURVEY COMPLETED NO MORE THAN 72-HOURS PRIOR TO PROPOSED CLEARING OR GRADING. DOCUMENTATION: THE APPLICANT SHALL PROVIDE A LETTER OF AGREEMENT WITH THIS CONDITION; ALTERNATIVELY, THE APPLICANT MAY SUBMIT A WRITTEN REQUEST FOR WAIVER OF THIS CONDITION. ALTHOUGH, NO GRADING SHALL OCCUR WITHIN THE RAA UNTIL CONCURRENCE IS RECEIVED FROM THE COUNTY AND THE WILDLIFE AGENCIES. TIMING: PRIOR TO PRECONSTRUCTION CONFERENCE AND PRIOR TO ANY CLEARING, GRUBBING, TRENCHING, GRADING, OR ANY LAND DISTURBANCES AND THROUGHOUT THE DURATION OF THE GRADING AND CONSTRUCTION, COMPLIANCE WITH THIS CONDITION IS MANDATORY UNLESS THE REQUIREMENT IS WAIVED BY THE COUNTY UPON RECEIPT OF CONCURRENCE FROM THE WILDLIFE AGENCIES. MONITORING: THE [DPW, PDC] SHALL NOT ALLOW ANY GRADING IN THE RAA DURING THE SPECIFIED DATES, UNLESS A CONCURRENCE FROM THE [PDS, PCC] IS RECEIVED. THE [PDS, PCC] SHALL REVIEW THE CONCURRENCE LETTER."

DURING CONSTRUCTION: (THE FOLLOWING ACTIONS SHALL OCCUR THROUGHOUT THE DURATION OF THE GRADING CONSTRUCTION).

NOISE#GP-1–NOISE–TEMPORARY CONSTRUCTION NOISE:
INTENT: IN ORDER TO MINIMIZE TEMPORARY CONSTRUCTION NOISE FOR GRADING OPERATIONS ASSOCIATED WITH STP-17-037. DESCRIPTION OF REQUIREMENT: THE PROJECT SHALL COMPLY WITH THE FOLLOWING TEMPORARY CONSTRUCTION NOISE CONTROL MEASURES AND SHALL COMPLY WITH THE EIGHT-HOUR AVERAGE SOUND LEVEL OF 75 DBA PURSUANT TO NOISE ORDINANCE SECTION 36.408 & 36.409:

a. TURN OFF EQUIPMENT WHEN NOT IN USE.

b. EQUIPMENT USED IN CONSTRUCTION SHOULD BE MAINTAINED IN PROPER OPERATING CONDITION, AND ALL LOADS SHOULD BE PROPERLY SECURED, TO PREVENT RATTLING AND BANGING.

c. USE EQUIPMENT WITH EFFECTIVE MUFFLERS

d. MINIMIZE THE USE OF BACK UP ALARM.

e. EQUIPMENT STAGING AREAS SHOULD BE PLACED AT LOCATIONS AWAY FARTHEST AWAY FROM NOISE SENSITIVE RECEIVERS AS DEEMED FEASIBLE.

f. TEMPORARY CONSTRUCTION EQUIPMENT OPERATIONS SHALL COMPLY WITH THE COUNTY NOISE ORDINANCE SECTIONS 36.408, 409, AND 410.

DOCUMENTATION: THE APPLICANT SHALL COMPLY WITH THE TEMPORARY CONSTRUCTION NOISE MEASURES AND THE COUNTY NOISE ORDINANCE AS DESCRIBED WITHIN THIS CONDITION. TIMING: THE FOLLOWING ACTIONS SHALL OCCUR THROUGHOUT THE DURATION OF THE GRADING CONSTRUCTION AND CONSTRUCTION EQUIPMENT OPERATIONS. MONITORING: THE [DPW, PDC] SHALL MAKE SURE THAT THE GRADING CONTRACTOR COMPLIES WITH THE CONSTRUCTION NOISE CONTROL MEASURES OF THIS CONDITION. THE [DPW, PDC] SHALL CONTACT THE [PDS, PCC] IF THE APPLICANT FAILS TO COMPLY WITH THIS CONDITION.

CULT#GR-2 – ARCHAEOLOGICAL MONITORING – DURING CONSTRUCTION
INTENT: IN ORDER TO COMPLY WITH THE COUNTY OF SAN DIEGO GUIDELINES FOR DETERMINING SIGNIFICANCE AND REPORT FORMAT AND CONTENT REQUIREMENTS FOR CULTURAL RESOURCES, A CULTURAL RESOURCE GRADING MONITORING PROGRAM SHALL BE IMPLEMENTED. DESCRIPTION OF REQUIREMENT: THE PROJECT ARCHAEOLOGIST AND LUISENO NATIVE AMERICAN MONITOR SHALL MONITOR THE ORIGINAL CUTTING OF PREVIOUSLY UNDISTURBED DEPOSITS IN ALL AREAS IDENTIFIED FOR DEVELOPMENT INCLUDING OFF-SITE IMPROVEMENTS. THE ARCHAEOLOGICAL MONITORING PROGRAM SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS DURING EARTH-DISTURBING ACTIVITIES:

a. MONITORING. DURING THE ORIGINAL CUTTING OF PREVIOUSLY UNDISTURBED DEPOSITS, THE PROJECT ARCHAEOLOGIST AND LUISENO NATIVE AMERICAN MONITOR SHALL BE ONSITE AS DETERMINED NECESSARY BY THE PROJECT ARCHAEOLOGIST. INSPECTIONS WILL VARY BASED ON THE RATE OF EXCAVATION, THE MATERIALS EXCAVATED, AND THE PRESENCE AND ABUNDANCE OF ARTIFACTS AND FEATURES. THE FREQUENCY AND LOCATION OF INSPECTIONS WILL BE DETERMINED BY THE PROJECT ARCHAEOLOGIST IN CONSULTATION WITH THE LUISENO NATIVE AMERICAN MONITOR. MONITORING OF THE CUTTING OF PREVIOUSLY DISTURBED DEPOSITS WILL BE DETERMINED BY THE PROJECT ARCHAEOLOGIST IN CONSULTATION WITH THE LUISENO NATIVE AMERICAN MONITOR.

b. INADVERTENT DISCOVERIES. IN THE EVENT THAT PREVIOUSLY UNIDENTIFIED POTENTIALLY SIGNIFICANT CULTURAL RESOURCES ARE DISCOVERED:

1. THE PROJECT ARCHAEOLOGIST OR THE LUISENO NATIVE AMERICAN MONITOR SHALL HAVE THE AUTHORITY TO DIVERT OR TEMPORARILY HALT GROUND DISTURBANCE OPERATIONS IN THE AREA OF DISCOVERY TO ALLOW EVALUATION OF POTENTIALLY SIGNIFICANT CULTURAL RESOURCES.
2. AT THE TIME OF DISCOVERY, THE PROJECT ARCHAEOLOGIST SHALL CONTACT THE PDS STAFF ARCHAEOLOGIST.
3. THE PROJECT ARCHAEOLOGIST, IN CONSULTATION WITH THE PDS STAFF ARCHAEOLOGIST AND THE LUISENO NATIVE AMERICAN MONITOR, SHALL DETERMINE THE SIGNIFICANCE OF THE DISCOVERED RESOURCES.
4. CONSTRUCTION ACTIVITIES WILL BE ALLOWED TO RESUME IN THE AFFECTED AREA ONLY AFTER THE PDS STAFF ARCHAEOLOGIST HAS CONCURRED WITH THE EVALUATION.
5. ISOLATES AND CLEARLY NON-SIGNIFICANT DEPOSITS SHALL BE MINIMALLY DOCUMENTED IN THE FIELD. SHOULD THE ISOLATES AND/OR NON-SIGNIFICANT DEPOSITS NOT BE COLLECTED BY THE PROJECT ARCHAEOLOGIST, THEN THE LUISENO NATIVE AMERICAN MONITOR MAY COLLECT THE CULTURAL MATERIAL FOR TRANSFER TO A TRIBAL CURATION FACILITY OR REPATRIATION PROGRAM.
6. IF CULTURAL RESOURCES ARE DETERMINED TO BE SIGNIFICANT, A RESEARCH DESIGN AND DATA RECOVERY PROGRAM (PROGRAM) SHALL BE PREPARED BY THE PROJECT ARCHAEOLOGIST IN CONSULTATION WITH THE LUISENO NATIVE AMERICAN MONITOR. THE COUNTY ARCHAEOLOGIST SHALL REVIEW AND APPROVE THE PROGRAM, WHICH SHALL BE CARRIED OUT USING PROFESSIONAL ARCHAEOLOGICAL METHODS. THE PROGRAM SHALL INCLUDE (1) REASONABLE EFFORTS TO PRESERVE (AVOIDANCE) 'UNIQUE' CULTURAL RESOURCES OR SACRED SITES; (2) THE CAPPING OF IDENTIFIED SACRED SITES OR UNIQUE CULTURAL RESOURCES AND PLACEMENT OF DEVELOPMENT OVER THE CAP, IF AVOIDANCE IS INFEASIBLE; AND (3) DATA RECOVERY FOR NON-UNIQUE CULTURAL RESOURCES. THE PREFERRED OPTION IS PRESERVATION (AVOIDANCE).

c. HUMAN REMAINS. IF ANY HUMAN REMAINS ARE DISCOVERED:

1. THE PROPERTY OWNER OR THEIR REPRESENTATIVE SHALL CONTACT THE COUNTY CORONER AND THE PDS STAFF ARCHAEOLOGIST.
2. UPON IDENTIFICATION OF HUMAN REMAINS, NO FURTHER DISTURBANCE SHALL OCCUR IN THE AREA OF THE FIND UNTIL THE COUNTY CORONER HAS MADE THE NECESSARY FINDINGS AS TO ORIGIN. IF THE HUMAN REMAINS ARE TO BE TAKEN OFFSITE FOR EVALUATION, THEY SHALL BE ACCOMPANIED BY THE LUISENO NATIVE AMERICAN MONITOR.
3. IF THE REMAINS ARE DETERMINED TO BE OF NATIVE AMERICAN ORIGIN, THE NAHC SHALL IMMEDIATELY CONTACT THE MOST LIKELY DESCENDANT (MLD).
4. THE IMMEDIATE MONITY WHERE THE NATIVE AMERICAN HUMAN REMAINS ARE LOCATED IS NOT TO BE DAMAGED OR DISTURBED BY FURTHER DEVELOPMENT ACTIVITY UNTIL CONSULTATION WITH THE MLD REGARDING THEIR RECOMMENDATIONS AS REQUIRED BY PUBLIC RESOURCES CODE SECTION 5097.98 HAS BEEN CONDUCTED.
5. THE MLD MAY WITH THE PERMISSION OF THE LANDOWNER, OR THEIR AUTHORIZED REPRESENTATIVE, INSPECT THE SITE OF THE DISCOVERY OF THE NATIVE AMERICAN HUMAN REMAINS AND MAY RECOMMEND TO THE OWNER OR THE PERSON RESPONSIBLE FOR THE EXCAVATION WORK MEANS FOR TREATMENT OR DISPOSITION, WITH APPROPRIATE DIGNITY, OF THE HUMAN REMAINS AND ANY ASSOCIATED GRAVE GOODS. THE DESCENDANTS SHALL COMPLETE THEIR INSPECTION AND MAKE RECOMMENDATIONS OR PREFERENCES FOR TREATMENT WITHIN 48 HOURS OF BEING GRANTED ACCESS TO THE SITE.
6. PUBLIC RESOURCES CODE §5097.98, CEQA §15064.5 AND HEALTH & SAFETY CODE §7050.5 SHALL BE FOLLOWED IN THE EVENT THAT HUMAN REMAINS ARE DISCOVERED.

d. FILL SOILS. THE PROJECT ARCHAEOLOGIST AND LUISENO NATIVE AMERICAN MONITOR SHALL EVALUATE FILL SOILS TO DETERMINE THAT THEY ARE CLEAN OF CULTURAL RESOURCES.

e. MONTHLY REPORTING. THE PROJECT ARCHAEOLOGIST SHALL SUBMIT MONTHLY STATUS REPORTS TO THE DIRECTOR OF PLANNING AND DEVELOPMENT SERVICES STARTING FROM THE DATE OF THE NOTICE TO PROCEED TO TERMINATION OF IMPLEMENTATION OF THE ARCHAEOLOGICAL MONITORING PROGRAM. THE REPORT SHALL BRIEFLY SUMMARIZE ALL ACTIVITIES DURING THE PERIOD AND THE STATUS OF PROGRESS ON OVERALL PLAN IMPLEMENTATION. UPON COMPLETION OF THE IMPLEMENTATION PHASE, A FINAL REPORT SHALL BE SUBMITTED DESCRIBING THE PLAN COMPLIANCE PROCEDURES AND SITE CONDITIONS BEFORE AND AFTER CONSTRUCTION.

DOCUMENTATION: THE APPLICANT SHALL IMPLEMENT THE ARCHAEOLOGICAL MONITORING PROGRAM PURSUANT TO THIS CONDITION. TIMING: THE FOLLOWING ACTIONS SHALL OCCUR THROUGHOUT THE DURATION OF THE EARTH DISTURBING ACTIVITIES. MONITORING: THE [DPW, PDC] SHALL MAKE SURE THAT THE PROJECT ARCHEOLOGIST IS ON-SITE PERFORMING THE MONITORING DUTIES OF THIS CONDITION. THE [DPW, PDC] SHALL CONTACT THE [PDS, PPD] IF THE PROJECT ARCHEOLOGIST OR APPLICANT FAILS TO COMPLY WITH THIS CONDITION.

PALEO#GR-1 – PALEONTOLOGICAL MONITORING
INTENT: IN ORDER TO COMPLY WITH THE COUNTY OF SAN DIEGO SIGNIFICANCE AND REPORT FORMAT GUIDELINES FOR PALEONTOLOGICAL RESOURCES, A PALEONTOLOGICAL MONITORING PROGRAM SHALL BE IMPLEMENTED. DESCRIPTION OF REQUIREMENT: THIS PROJECT SITE HAS MARGINAL LEVELS OF SENSITIVE PALEONTOLOGICAL RESOURCES. ALL GRADING ACTIVITIES ARE SUBJECT TO THE COUNTY OF SAN DIEGO GRADING ORDINANCE SECTION 87.430. IF ANY SIGNIFICANT RESOURCES (FOSSILS) ARE ENCOUNTERED DURING GRADING ACTIVITIES.

a. THE GRADING CONTRACTOR IS RESPONSIBLE TO MONITOR FOR PALEONTOLOGICAL RESOURCES DURING ALL GRADING ACTIVITIES. IF ANY FOSSILS ARE FOUND GREATER THAN 12 INCHES IN ANY DIMENSION, STOP ALL GRADING ACTIVITIES AND CONTACT PDS BEFORE CONTINUING GRADING OPERATIONS.

IF ANY PALEONTOLOGICAL RESOURCES ARE DISCOVERED AND SALVAGED, THE MONITORING, RECOVERY, AND SUBSEQUENT WORK DETERMINED NECESSARY SHALL BE COMPLETED BY OR UNDER THE SUPERVISION OF A QUALIFIED PALEONTOLOGIST PURSUANT TO THE SAN DIEGO COUNTY GUIDELINES FOR DETERMINING SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES.

TIMING: THE FOLLOWING ACTIONS SHALL OCCUR THROUGHOUT THE DURATION OF THE GRADING CONSTRUCTION. MONITORING: THE [DPW, PDC] SHALL MAKE SURE THAT THE GRADING CONTRACTOR IS ON-SITE PERFORMING THE MONITORING DUTIES OF THIS CONDITION. THE [DPW, PDC] SHALL CONTACT PDS IF THE GRADING CONTRACTOR OR APPLICANT FAILS TO COMPLY WITH THIS CONDITION.

AIR#GR-FUGITIVE DUST
INTENT: IN ORDER TO MITIGATE FOR FUGITIVE DUST DURING CONSTRUCTION ACTIVITIES. DESCRIPTION OF REQUIREMENT: THE PROJECT SHALL COMPLY WITH THE FOLLOWING AIR QUALITY MEASURES:

a. ALL HAUL/DUMP TRUCKS ENTERING OR LEAVING THE SITE WITH SOIL OR FILL MATERIAL MUST MAINTAIN AT LEAST TWO (2) FEET OF FREEBOARD OR COVER LOADS OF ALL HAUL/DUMP TRUCKS SECURELY.
b. AREAS RECENTLY DISTURBED BY DOZER/SCRAPER PASSES AND ANY UNPAVED ROADS WITHIN THE PROJECT LIMITS WILL BE WATERED A MINIMUM OF THREE (3) TIMES DAILY.
c. GRADING ACTIVITIES WILL BE TERMINATED IN WINDS IN EXCESS OF 25 MILES PER HOUR (MPH).
d. DUST AND DEBRIS AT PUBLIC STREET ACCESS POINTS SHALL BE CLEANED REGULARLY USING SWEEPERS AND WATER TRUCKS.
e. DIRT STORAGE PILES WILL BE STABILIZED BY CHEMICAL BINDERS, TARPS, FENCING, OR OTHER SUPPRESSION MEASURES.
f. INTERNAL CONSTRUCTION-ROADWAYS WILL BE STABILIZED BY PAVING, CHIP SEALING OR APPLYING STABILIZING CHEMICALS AFTER ROUGH GRADING.
g. A 15-MPH SPEED LIMIT ON UNPAVED SURFACES SHALL BE ENFORCED.

DOCUMENTATION: THE APPLICANT OR DESIGNEE SHALL COMPLY WITH THE AIR QUALITY REQUIREMENTS OF THIS CONDITION. TIMING: THE FOLLOWING ACTIONS SHALL OCCUR THROUGHOUT THE DURATION OF CONSTRUCTION AND GRADING. MONITORING: THE [DPW, PDC] SHALL MAKE SURE THAT THE GRADING CONTRACTOR COMPLIES WITH THE AIR QUALITY REQUIREMENTS OF THIS CONDITION. THE [DPW, PDC] SHALL CONTACT THE [DPLU, PCC] IF THE APPLICANT FAILS TO COMPLY WITH THIS CONDITION.

AIR#GR-CONSTRUCTION EXHAUST EMISSIONS
INTENT: IN ORDER TO MITIGATE FOR EXHAUST EMISSIONS DURING CONSTRUCTION ACTIVITIES. DESCRIPTION OF REQUIREMENT: THE PROJECT SHALL COMPLY WITH THE FOLLOWING AIR QUALITY AND GREENHOUSE GAS MEASURES:

a. THE PROJECT SHALL REQUIRE THE CONSTRUCTION CONTRACTOR TO PROVIDE A CONSTRUCTION FLEET THAT USES HEAVY-DUTY DIESEL-POWERED EQUIPMENT EQUIPPED WITH TIER 4 DIESEL ENGINES. AN EXEMPTION FROM THESE REQUIREMENTS MAY BE GRANTED BY THE COUNTY IF THE APPLICANT DOCUMENTS THAT EQUIPMENT WITH THE REQUIRED TIER IS NOT REASONABLY AVAILABLE AND CORRESPONDING REDUCTIONS IN CRITERIA AIR POLLUTANT EMISSIONS ARE ACHIEVED FROM OTHER CONSTRUCTION EQUIPMENT. BEFORE AN EXEMPTION MAY BE CONSIDERED BY THE COUNTY, THE APPLICANT SHALL BE REQUIRED TO DEMONSTRATE THAT THREE CONSTRUCTION FLEET OWNERS/OPERATORS IN THE SAN DIEGO REGION WERE CONTACTED AND THAT THOSE OWNERS/OPERATORS CONFIRMED TIER 4 EQUIPMENT COULD NOT BE LOCATED WITHIN THE SAN DIEGO REGION.
b. THE PROJECT SHALL REQUIRE THE CONSTRUCTION CONTRACTOR TO EQUIP ALL HEAVY-DUTY DIESEL-POWERED CONSTRUCTION EQUIPMENT WITH DIESEL PARTICULATE FILTERS (DPFS).
c. CONSTRUCTION EQUIPMENT SHALL BE OUTFITTED WITH BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DEVICES CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD. A COPY OF EACH UNIT'S BACT DOCUMENTATION SHALL BE PROVIDED TO THE COUNTY OF SAN DIEGO AT THE TIME OF MOBILIZATION OF EACH APPLICABLE UNIT OF EQUIPMENT.

DOCUMENTATION: THE APPLICANT OR DESIGNEE SHALL COMPLY WITH THE AIR QUALITY AND GREENHOUSE GAS REQUIREMENTS OF THIS CONDITION. THE APPLICANT SHALL SHOW COMPLIANCE WITH THIS MEASURE BY PROVIDING THE CONSTRUCTION BID/ESTIMATE FROM THE CONSTRUCTION CONTRACTOR THAT WILL BE USED. TIMING: PRIOR TO APPROVAL OF ANY GRADING AND OR IMPROVEMENT PLANS AND ISSUANCE OF ANY GRADING OR CONSTRUCTION PERMITS. MONITORING: THE [DPW, PDC] SHALL MAKE SURE THAT THE GRADING CONTRACTOR COMPLIES WITH THE AIR QUALITY REQUIREMENTS OF THIS CONDITION. THE [DPW, PDC] SHALL CONTACT THE [DPLU, PCC] IF THE APPLICANT FAILS TO COMPLY WITH THIS CONDITION.

AIR#GR-CUMULATIVE CONSTRUCTION SCHEDULE
INTENT: IN ORDER TO AVOID A SIGNIFICANT CUMULATIVE AIR QUALITY IMPACT. DESCRIPTION OF REQUIREMENT: THE PROJECT SHALL COORDINATE GRADING SCHEDULES WITH COUNTY STAFF AND OTHER CONSTRUCTION PROJECTS OCCURRING WITHIN THE PROJECT VICINITY TO AVOID SIMULTANEOUS GRADING ACTIVITIES, TO THE EXTENT FEASIBLE. DOCUMENTATION: THE APPLICANT SHALL COMPLY WITH THE AIR QUALITY REQUIREMENTS OF THIS CONDITION. TIMING: THE FOLLOWING ACTION SHALL OCCUR THROUGHOUT THE DURATION OF THE CONSTRUCTION GRADING ACTIVITIES. MONITORING: THE [DPW, PDC] SHALL MAKE SURE THAT THE GRADING CONTRACTOR COMPLIES WITH THE AIR QUALITY REQUIREMENTS OF THIS CONDITION. THE [DPW, PDC] SHALL CONTACT THE [DPLU, PCC] IF THE APPLICANT FAILS TO COMPLY WITH THIS CONDITION.

ROUGH GRADING: (PRIOR TO ROUGH GRADING APPROVAL AND ISSUANCE OF ANY BUILDING PERMIT).

CULT#GR-3 – ARCHAEOLOGICAL MONITORING – ROUGH GRADING
INTENT: IN ORDER TO COMPLY WITH THE COUNTY OF SAN DIEGO GUIDELINES FOR DETERMINING SIGNIFICANCE AND REPORT FORMAT AND CONTENT REQUIREMENTS FOR CULTURAL RESOURCES, AN ARCHAEOLOGICAL MONITORING PROGRAM SHALL BE IMPLEMENTED. DESCRIPTION OF REQUIREMENT: THE PROJECT ARCHAEOLOGIST SHALL PREPARE ONE OF THE FOLLOWING REPORTS UPON COMPLETION OF THE EARTH-DISTURBING ACTIVITIES THAT REQUIRE MONITORING:

a. NO ARCHAEOLOGICAL RESOURCES ENCOUNTERED. IF NO ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED DURING EARTH-DISTURBING ACTIVITIES, THEN SUBMIT A FINAL NEGATIVE MONITORING REPORT SUBSTANTIATING THAT EARTH-DISTURBING ACTIVITIES ARE COMPLETED AND NO CULTURAL RESOURCES WERE ENCOUNTERED. ARCHAEOLOGICAL MONITORING LOGS SHOWING THE DATE AND TIME THAT THE MONITOR WAS ON SITE AND ANY COMMENTS FROM THE NATIVE AMERICAN MONITOR MUST BE INCLUDED IN THE NEGATIVE MONITORING REPORT.

b. ARCHAEOLOGICAL RESOURCES ENCOUNTERED. IF ARCHAEOLOGICAL RESOURCES WERE ENCOUNTERED DURING THE EARTH DISTURBING ACTIVITIES, THE PROJECT ARCHAEOLOGIST SHALL PROVIDE AN ARCHAEOLOGICAL MONITORING REPORT STATING THAT THE FIELD MONITORING ACTIVITIES HAVE BEEN COMPLETED, AND THAT RESOURCES HAVE BEEN ENCOUNTERED. THE REPORT SHALL DETAIL ALL CULTURAL ARTIFACTS AND DEPOSITS DISCOVERED DURING MONITORING AND THE ANTICIPATED TIME SCHEDULE FOR COMPLETION OF THE CURATION AND/OR REPATRIATION PHASE OF THE MONITORING.

DOCUMENTATION: THE APPLICANT SHALL SUBMIT THE ARCHAEOLOGICAL MONITORING REPORT TO [PDS, PPD] FOR REVIEW AND APPROVAL. ONCE APPROVED, A FINAL COPY OF THE REPORT SHALL BE SUBMITTED TO THE SOUTH COASTAL INFORMATION CENTER, AND ANY CULTURALLY AFFILIATED TRIBE WHO REQUESTS A COPY. TIMING: UPON COMPLETION OF ALL EARTH-DISTURBING ACTIVITIES, AND PRIOR TO ROUGH GRADING FINAL INSPECTION (GRADING ORDINANCE SEC 87.421.A.2), THE REPORT SHALL BE COMPLETED. MONITORING: [PDS, PPD] SHALL REVIEW THE REPORT OR FIELD MONITORING MEMO FOR COMPLIANCE WITH THE PROJECT MMRP, AND INFORM [DPW, PDC] THAT THE REQUIREMENT IS COMPLETED.

PALEO#GR-2 – PALEONTOLOGICAL MONITORING
INTENT: IN ORDER TO COMPLY WITH THE COUNTY OF SAN DIEGO SIGNIFICANCE AND REPORT FORMAT GUIDELINES FOR PALEONTOLOGICAL RESOURCES, A PALEONTOLOGICAL MONITORING PROGRAM SHALL BE IMPLEMENTED. DESCRIPTION OF REQUIREMENT: ONE OF THE FOLLOWING LETTERS SHALL BE PERFORMED UPON COMPLETION OF THE GRADING ACTIVITIES THAT REQUIRE MONITORING:

a. IF NO PALEONTOLOGICAL RESOURCES WERE DISCOVERED, SUBMIT A 'NO FOSSILS FOUND' LETTER FROM THE GRADING CONTRACTOR TO PDS STATING THAT THE MONITORING HAS BEEN COMPLETED AND THAT NO FOSSILS WERE DISCOVERED, AND INCLUDING THE NAMES AND SIGNATURES FROM THE FOSSIL MONITORS. THE LETTER SHALL BE IN THE FORMAT OF ATTACHMENT E OF THE COUNTY OF SAN DIEGO GUIDELINES FOR DETERMINING SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES.

b. IF PALEONTOLOGICAL RESOURCES WERE ENCOUNTERED DURING GRADING, A LETTER SHALL BE PREPARED STATING THAT THE FIELD GRADING MONITORING ACTIVITIES HAVE BEEN COMPLETED, AND THAT RESOURCES HAVE BEEN ENCOUNTERED. THE LETTER SHALL DETAIL THE ANTICIPATED TIME SCHEDULE FOR COMPLETION OF THE CURATION PHASE OF THE MONITORING.

DOCUMENTATION: THE APPLICANT SHALL SUBMIT THE LETTER REPORT TO PDS FOR REVIEW AND APPROVAL. TIMING: UPON COMPLETION OF ALL GRADING ACTIVITIES, AND PRIOR TO ROUGH GRADING FINAL INSPECTION (GRADING ORDINANCE SEC 87.421.A.2), THE LETTER REPORT SHALL BE COMPLETED. MONITORING: PDS SHALL REVIEW THE FINAL NEGATIVE LETTER REPORT OR FIELD MONITORING MEMO FOR COMPLIANCE WITH THE PROJECT MMRP, AND INFORM [DPW, PDC] THAT THE REQUIREMENT IS COMPLETED.

FINAL GRADING RELEASE: (PRIOR TO ANY OCCUPANCY, FINAL GRADING RELEASE, OR USE OF THE PREMISES IN RELIANCE OF THIS PERMIT).

CULT#GR-4 – ARCHAEOLOGICAL MONITORING – FINAL GRADING
INTENT: IN ORDER TO COMPLY WITH THE COUNTY OF SAN DIEGO GUIDELINES FOR DETERMINING SIGNIFICANCE AND REPORT FORMAT AND CONTENT REQUIREMENTS FOR CULTURAL RESOURCES, AN ARCHAEOLOGICAL MONITORING PROGRAM SHALL BE IMPLEMENTED. DESCRIPTION OF REQUIREMENT: THE PROJECT ARCHAEOLOGIST SHALL PREPARE A FINAL REPORT THAT DOCUMENTS THE RESULTS, ANALYSIS, AND CONCLUSIONS OF ALL PHASES OF THE ARCHAEOLOGICAL MONITORING PROGRAM IF CULTURAL RESOURCES WERE ENCOUNTERED DURING EARTH-DISTURBING ACTIVITIES. THE REPORT SHALL INCLUDE THE FOLLOWING, IF APPLICABLE:

a. DEPARTMENT OF PARKS AND RECREATION PRIMARY AND ARCHAEOLOGICAL SITE FORMS.

b. DAILY MONITORING LOGS

c. EVIDENCE THAT ALL CULTURAL MATERIALS HAVE BEEN CONVEYED AS FOLLOWS:

(1) EVIDENCE THAT ALL PREHISTORIC MATERIALS COLLECTED DURING THE ARCHAEOLOGICAL MONITORING PROGRAM HAVE BEEN SUBMITTED TO A SAN DIEGO CURATION FACILITY OR A CULTURALLY AFFILIATED NATIVE AMERICAN TRIBAL CURATION FACILITY THAT MEETS FEDERAL STANDARDS PER 36 CFR PART 79, AND, THEREFORE, WOULD BE PROFESSIONALLY CURATED AND MADE AVAILABLE TO OTHER ARCHAEOLOGISTS/RESEARCHERS FOR FURTHER STUDY. THE COLLECTIONS AND ASSOCIATED RECORDS, INCLUDING TITLE, SHALL BE TRANSFERRED TO THE SAN DIEGO CURATION FACILITY OR CULTURALLY AFFILIATED NATIVE AMERICAN TRIBAL CURATION FACILITY AND SHALL BE ACCOMPANIED BY PAYMENT OF THE FEES NECESSARY FOR PERMANENT CURATION. EVIDENCE SHALL BE IN THE FORM OF A LETTER FROM THE CURATION FACILITY STATING THAT THE PREHISTORIC ARCHAEOLOGICAL MATERIALS HAVE BEEN RECEIVED AND THAT ALL FEES HAVE BEEN PAID.

OR

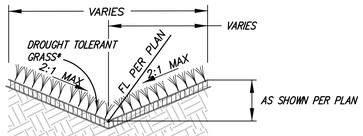
EVIDENCE THAT ALL PREHISTORIC MATERIALS COLLECTED DURING THE GRADING MONITORING PROGRAM HAVE BEEN REPATRIATED TO A NATIVE AMERICAN GROUP OF APPROPRIATE TRIBAL AFFINITY AND SHALL BE ACCOMPANIED BY PAYMENT OF THE FEES NECESSARY, IF REQUIRED. EVIDENCE SHALL BE IN THE FORM OF A LETTER FROM THE NATIVE AMERICAN TRIBE TO WHOM THE CULTURAL RESOURCES HAVE BEEN REPATRIATED IDENTIFYING THAT THE ARCHAEOLOGICAL MATERIALS HAVE BEEN RECEIVED.

(2) HISTORIC MATERIALS SHALL BE CURATED AT A SAN DIEGO CURATION FACILITY AND SHALL NOT BE CURATED AT A TRIBAL CURATION FACILITY OR REPATRIATED. THE COLLECTIONS AND ASSOCIATED RECORDS, INCLUDING TITLE, SHALL BE TRANSFERRED TO THE SAN DIEGO CURATION FACILITY AND SHALL BE ACCOMPANIED BY PAYMENT OF THE FEES NECESSARY FOR PERMANENT CURATION. EVIDENCE SHALL BE IN THE FORM OF A LETTER FROM THE CURATION FACILITY STATING THAT THE HISTORIC MATERIALS HAVE BEEN RECEIVED AND THAT ALL FEES HAVE BEEN PAID.

d. IF NO CULTURAL RESOURCES ARE DISCOVERED, A NEGATIVE MONITORING REPORT MUST BE SUBMITTED STATING THAT THE ARCHAEOLOGICAL MONITORING ACTIVITIES HAVE BEEN COMPLETED. GRADING MONITORING LOGS MUST BE SUBMITTED WITH THE NEGATIVE MONITORING REPORT.

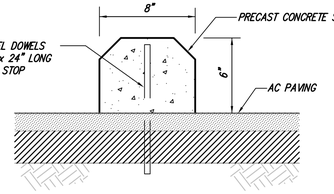
DOCUMENTATION: THE APPLICANT'S ARCHAEOLOGIST SHALL PREPARE THE FINAL REPORT AND SUBMIT IT TO [PDS, PPD] FOR APPROVAL. ONCE APPROVED, A FINAL COPY OF THE REPORT SHALL BE SUBMITTED TO THE SOUTH COASTAL INFORMATION CENTER (SCIC), SAN LUIS REY BAND OF MISSION INDIANS, AND ANY CULTURALLY AFFILIATED TRIBE WHO REQUESTS A COPY. TIMING: PRIOR TO ANY OCCUPANCY, FINAL GRADING RELEASE, OR USE OF THE PREMISES IN RELIANCE OF THIS PERMIT, THE FINAL REPORT SHALL BE PREPARED. MONITORING: [PDS, PPD] SHALL REVIEW THE FINAL REPORT FOR COMPLIANCE WITH THIS CONDITION AND THE REPORT FORMAT GUIDELINES. UPON ACCEPTANCE OF THE REPORT, [PDS, PPD] SHALL INFORM [PDS, LDR] AND [DPW, PDC], THAT THE REQUIREMENT IS COMPLETE, AND THE BOND AMOUNT CAN BE RELINQUISHED. IF THE MONITORING WAS BONDED SEPARATELY, THEN [PDS, PPD] SHALL INFORM [PDS OR DPW FISCAL] TO RELEASE THE BOND BACK TO THE APPLICANT.

LNDSCP#2–CERTIFICATION OF INSTALLATION
INTENT: IN ORDER TO PROVIDE ADEQUATE LANDSCAPING THAT PROVIDES SCREENING, AND TO COMPLY WITH THE COSD WATER EFFICIENT LANDSCAPE DESIGN MANUAL, THE COSD WAT



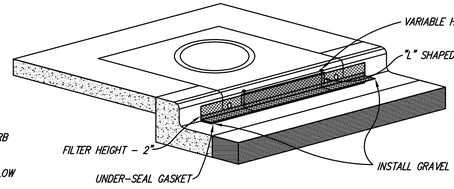
*SLOPES/FLOWLINE TO BE PROTECTED WITH DROUGHT TOLERANT HYDROSEED MIX. FLOWLINE SHOWN PER PLAN AT TOP OF HYDROSEED.

BLADED/VEGETATED SWALE (PVT) (14)
NOT TO SCALE



6' CONCRETE WHEEL STOP (PVT) (73)
NOT TO SCALE

INLET SIZE	# OF CIG SEGMENTS
5'	1
10'	2
15'	3
20'	4
25'	5
30'	6



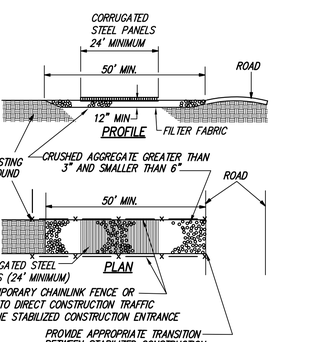
CONSTRUCTION DETAILS
* MINIMUM 2 INTEGRATED "L" BRACKETS
* MINIMUM 2 VARIABLE–HEIGHT PINS FOR CURB
* FILTER HEIGHT – 2 INCHES
* UV RESISTANT HDPE OUTER JACKET
* UNDER–SEAL GASKET TO PREVENT UNDERFLOW
* CIG HEIGHT = 8 INCHES
* CIG LENGTH = 6.25 FEET

INSTALLATION DETAILS
* PLACEMENT: PLACE CIG TIGHTLY AGAINST DRAIN OPENING WITH METAL VARIABLE HEIGHT PINS AT TOP.
* CHANGE HEIGHT FOR HIGH OPENINGS: EXTEND VARIABLE HEIGHT PINS UPWARD IF NECESSARY.
* INTERCONNECTING FOR LONG CURB OPENINGS: OVERLAP SEGMENTS SO THE BOTTOM GASKET PROVIDES A CONTINUOUS SEAL (ONE SIDE HAS A CUT–OUT). EACH 6.25" SEGMENT FITS A 5 FOOT OPENING OR SMALLER. USE 2 SEGMENTS FOR 8 TO 10 FEET. USE 3 SEGMENTS FOR 15 FEET, ETC.
* ANCHORING: INSTALL GRAVEL BAGS AT EACH END AND AT OVERLAPS. USE ½ FULL GRAVEL BAGS FOR LOW PROFILE AND BEST TRAFFIC AVOIDANCE. USE CLEAN GRAVEL AT DRAIN INLETS – NOT SAND. SELECT BAGS WITH LONG TERM UV EXPOSURE AND TOUGHNESS FOR RESISTANCE TO TRAFFIC. WHERE NOT POSSIBLE TO INSTALL GRAVEL BAGS DUE TO TRAFFIC PROXIMITY, IT IS ACCEPTABLE TO ANCHOR WITH CONCRETE ANCHORS, OR MASONARY NAILS – ONE AT EACH END. ANCHOR CURB INLET GUARD SO THAT WATER CANNOT FLOW BEHIND IT. USE 1" WASHERS.

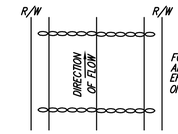
IMPORTANT: ALL INFORMATION, INCLUDING ILLUSTRATIONS, IS BELIEVED TO BE RELIABLE. USERS, HOWEVER, SHOULD INDEPENDENTLY EVALUATE THE SUITABILITY OF EACH PRODUCT FOR THEIR APPLICATION. ERTEC ENVIRONMENTAL SYSTEMS MAKES NO WARRANTIES AS TO THE ACCURACY OF COMPLETENESS OF THE INFORMATION, AND DISCLAIMS ANY LIABILITY REGARDING IS USE. ERTEC ENVIRONMENTAL SYSTEM'S ONLY OBLIGATIONS ARE THOSE IN THE ERTEC ENVIRONMENTAL SYSTEMS STANDARD TERMS AND CONDITIONS OF SALE FOR THIS PRODUCT, AND IN NO CASE WILL ERTEC ENVIRONMENTAL SYSTEMS OR ITS DISTRIBUTORS BE LIABLE FOR ANY INCIDENTAL INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FOR THE SALE, RESALE, USE OR MISUSE OF THE PRODUCT. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. IN ADDITION, ERTEC ENVIRONMENTAL SYSTEMS RESERVES THE RIGHT TO MAKE CHANGES, WITHOUT NOTIFICATION TO BUYER, TO PROCESSING OR MATERIALS THAT DO NOT AFFECT COMPLIANCE WITH ANY APPLICABLE SPECIFICATION.

ERTEC ENVIRONMENTAL SYSTEMS
HTTP://WWW.ERTECSYSTEMS.COM
1150 BALLENA BLVD. P. 866-521-0724
SUITE 250 F. 510-521-3972
ALAMEDA, CA 94501

DETAIL: ERTEC CURB INLET GUARD (PVT) (46)
NOT TO SCALE

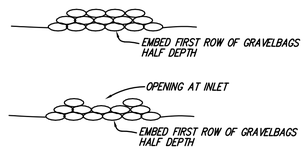


STABILIZED CONSTRUCTION ENTRANCE (PVT) (45)
NOT TO SCALE



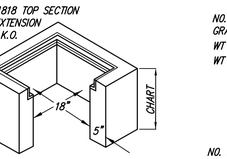
FOR BAG HEIGHT AND SPACING SEE EROSION CONTROL NOTES ON SHEET 3.

GRAVEL/GRAVEL BAGGING ON STREETS

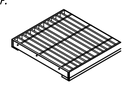


BAG EMBEDDING DETAIL

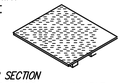
GRAVELBAG DETAILS (PVT)
NOT TO SCALE

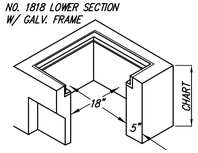


NO. 1818 STEEL PARKWAY OR TRAFFIC GRATE MAX. 1/2" SPACING
WT 33# PARKWAY
WT 60# TRAF.



NO. 1818 STEEL PARKWAY OR TRAFFIC SOLID COVER
WT 51# PARKWAY
WT 70# TRAF.



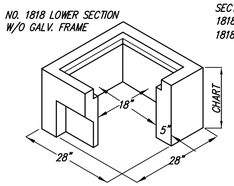


NO. 1818 TOP SECTION

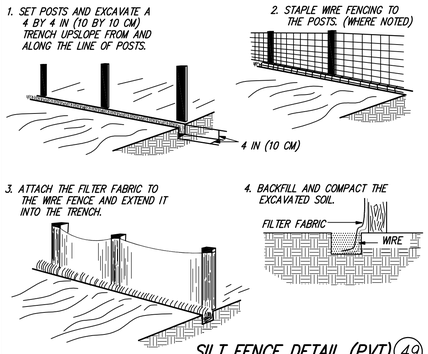
SECTION	HT.	LBS.	AVAILABLE
1818 T6	6"	230	W/O K.O.
1818 T12	12"	460	W/O K.O.

NO. 1818 LOWER SECTION

SECTION	HT.	LBS.	AVAILABLE
1818 L18	18"	612	W/2 10"x14 K.O.
1818 L24	24"	852	W/2 10"x14 K.O.

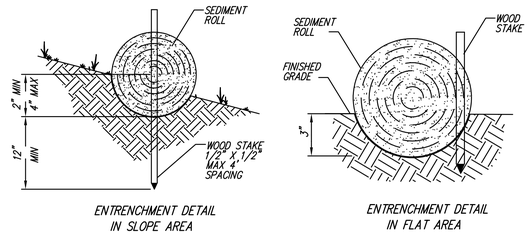


18" X 18" BROOKS BOX CATCH BASIN OR EQUIVALENT (PVT) (5)
NOT TO SCALE

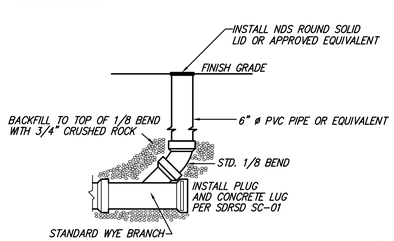


SILT FENCE DETAIL (PVT) (49)
NOT TO SCALE

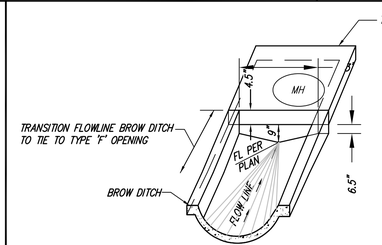
SILT FENCE NOTES:
1. POSTS FOR SILT FENCES SHALL BE EITHER 4–INCH–DIAMETER WOOD OR EQUIVALENT WITH A MINIMUM LENGTH OF 5 FEET. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). 2" DIA. WOOD OR EQUIVALENT MAY BE USED PROVIDED POST SPACING DOES NOT EXCEED 4'.
2. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS
3. THE FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE POST, AND 8 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
4. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE TOE OF THE FILTER FABRIC.
5. THE MAXIMUM DRAINAGE AREA BEHIND THE SILT FENCE SHALL BE 1.0 ACRE.
6. THE MAXIMUM SLOPE LENGTH BEHIND THE BARRIER SHALL BE 100 FEET.



FIBER ROLL (PVT) (47) (51) (53)
NOT TO SCALE

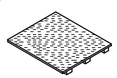


STORM DRAIN CLEANOUT W/IN LANDSCAPE (PVT) (88)
NOT TO SCALE

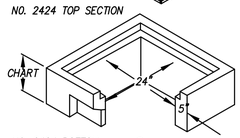


DETAIL: BROW DITCH FLOWLINE TRANSITION TO TYPE 'F' OPENING (PVT) (85)
NOT TO SCALE



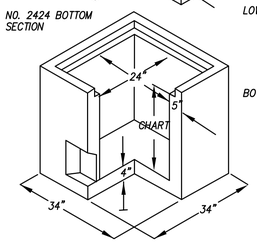


NO. 2424 TOP SECTION



TOP SECTION	HT.	LBS	AVAILABLE
2424 T6	6"	270	NO K.O.
2424 T12	12"	495	(4) 6" X 11"
2424 T18	18"	745	(4) 9" X 12"
2424 T24	24"	870	(4) 14" X 14"

NO. 2424 BOTTOM SECTION

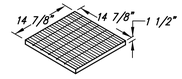


LOWER	HT.	LBS	AVAILABLE
2424 L12	12"	495	(4) 6" X 11"
2424 L18	18"	745	(4) 9" X 12"
2424 L24	24"	870	(4) 14" X 14"

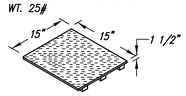
BOTTOM	HT.	LBS	AVAILABLE
2424 B30	30"	1595	(4) 18" X 18"
2424 B36	36"	1905	(4) 18" X 18"

24"x24" BROOKS BOX CATCH BASIN OR EQUIVALENT (PVT) (6)
NOT TO SCALE

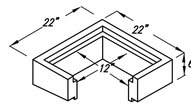
1212 CAST IRON PARKWAY GRATE WT. 28#



1212 STEEL TRAFFIC COVER WT. 25#

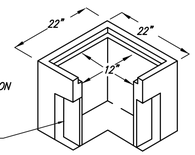


1212 TOP SECTION WT. 275#



TOP SECTION	HT.	LBS	AVAILABLE
1212 T6	6"	170	NO K.O.
1212 T12	12"	275	(4) 5" X 10"
1212 T18	18"	270	(4) 8" X 12"
1212 T24	24"	430	(4) 8" X 15"
1212 T28	28"	380	(4) 8" X 22"

1212 LOWER SECTION WT. 275#

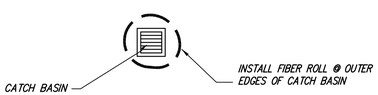


EXTENSION SECTION	HT.	LBS	AVAILABLE
1212 E6	6"	170	NO K.O.

LOWER SECTION	HT.	LBS	AVAILABLE
1212 L12	12"	275	(4) 5" X 10"
1212 L18	18"	270	(4) 8" X 12"
1212 L24	24"	430	(4) 8" X 15"
1212 L28	28"	380	(4) 8" X 22"

12"x12" BROOKS BOX CATCH BASIN OR EQUIVALENT (PVT) (7)
NOT TO SCALE

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.



CATCH BASIN PROTECTION DETAIL (PVT) (50)
NOT TO SCALE

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER BRENT C. MOORE No. 59121 Exp. 6-30-27 CIVIL STATE OF CALIFORNIA

RECORD PLAN
BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK
DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR–92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
5		

NOTES AND DETAILS FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380–1750

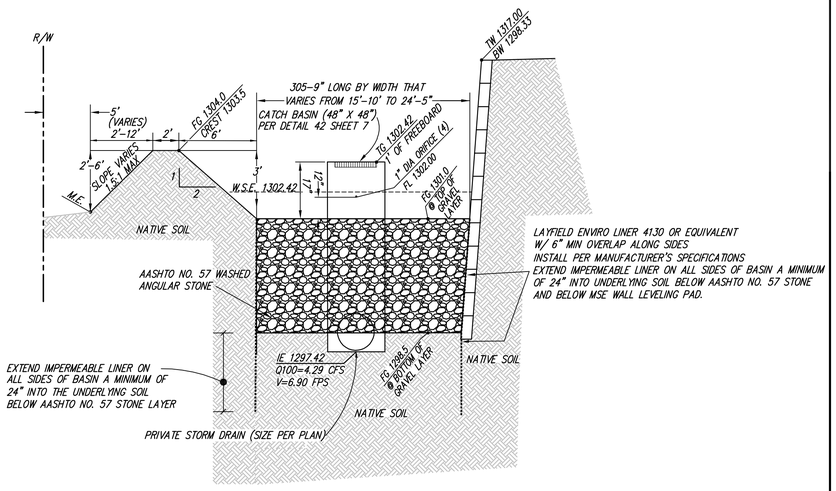
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024–LDGRMJ–30505
GRADING PERMIT NO:

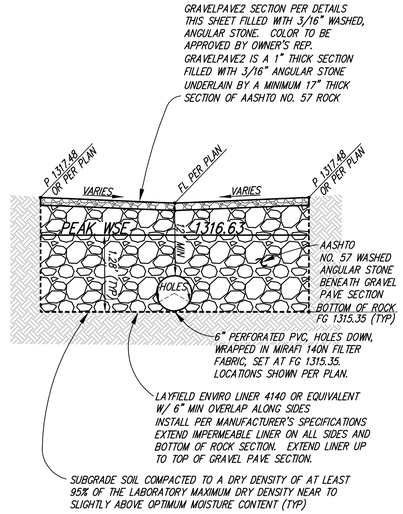
ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587–2020

22–324GP05.dwg 01–13–26



DETAIL: INFILTRATION BASIN INF1 – SECTION 'C' – 'C' (PVT) (32)

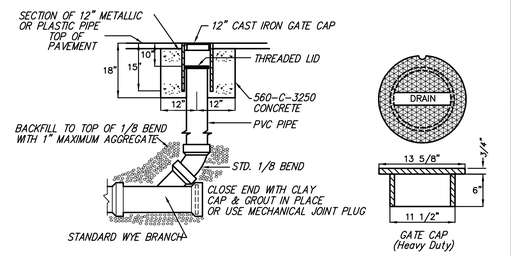
NOT TO SCALE



DETAIL: GRAVELPAVE2 DETENTION AREA (PVT)

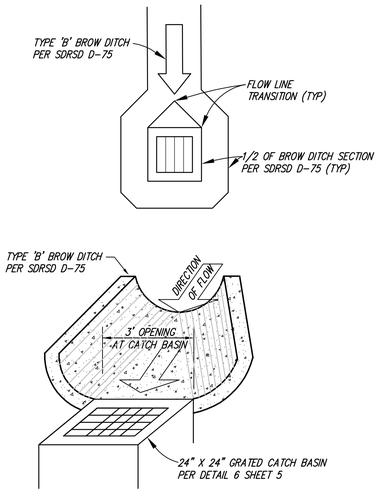
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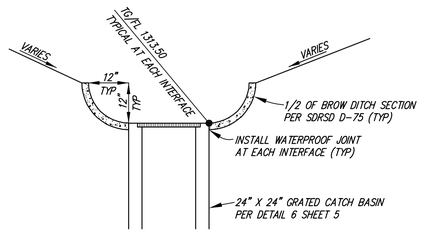
(10)



STORM DRAIN CLEANOUT IN PAVEMENT (PVT) (8)

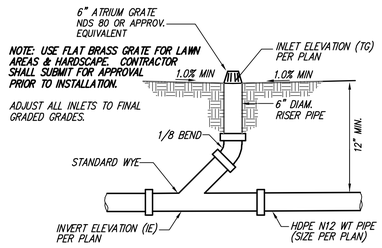
NOT TO SCALE





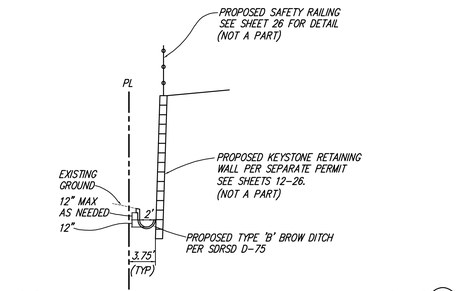
DETAIL: BROW DITCH TRANSITION AT CATCH BASIN (PVT) (20)

NOT TO SCALE



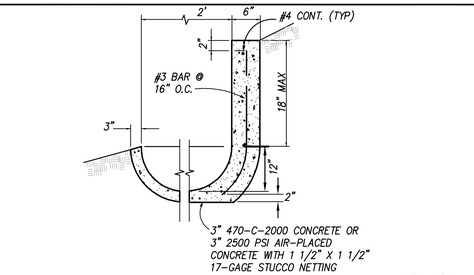
AREA DRAIN DETAIL (PVT) (21)

NOT TO SCALE



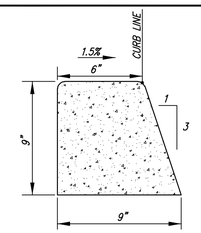
TYPE 'B' BROW DITCH AT FACE OF RETAINING WALL (PVT) (12) PER SDRSD D-75

SCALE: 1" = 10'



WALL EXTENSION DETAIL FOR SDRSD D-75 (PVT) (12) (19)

NOT TO SCALE



SEE SDRSD G-1 FOR ADDITIONAL INFORMATION AND G-10 FOR JOINT DETAILS

0" CURB DETAIL (PVT) (16)

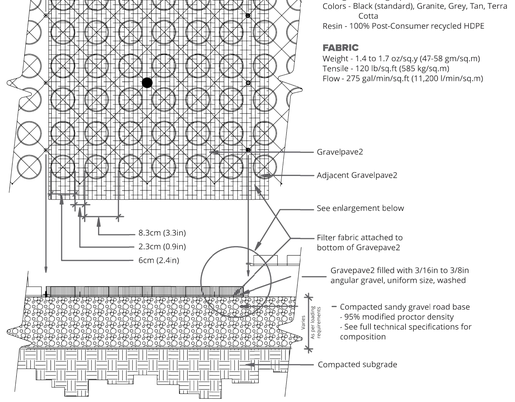
NOT TO SCALE

GRAVELPAVE2 DETAIL

Choose This Product For Reinforcing Gravel Wearing Surfaces

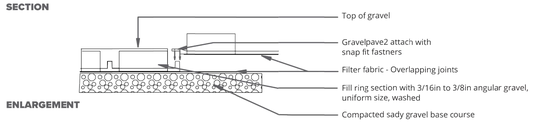
GRAVELPAVE2 BY INVISIBLE STRUCTURES™

PLAN



SECTION

ENLARGEMENT



SPECIFICATIONS

UNITS

Unit Size - 1m X 1m X 2.5cm (40in X 40in X 1in)
Available in 2 standard roll sizes
1010 Roll - 3.3 ft x 32.8 ft - 108 sq.ft.
2020 Roll - 6.6 ft x 65.6 ft - 430 sq. ft.
Unit Weight - 538 g (19 oz) or 2.2. kg (4.8 lbs)
Strength - 1121 kg/sq.cm (15,940 PSI)
Colors - Black (standard), Granite, Grey, Tan, Terra Cotta
Resin - 100% Post-Consumer recycled HDPE

FABRIC

Weight - 1.4 to 1.7 oz/sq.y (47-58 gm/sq.m)
Tensile - 120 lb/sq.ft (585 kg/sq.m)
Flow - 275 gal/min/sq.ft (11,200 l/min/sq.m)

InvisibleStructures.com INVISIBLE STRUCTURES 303-233-8383

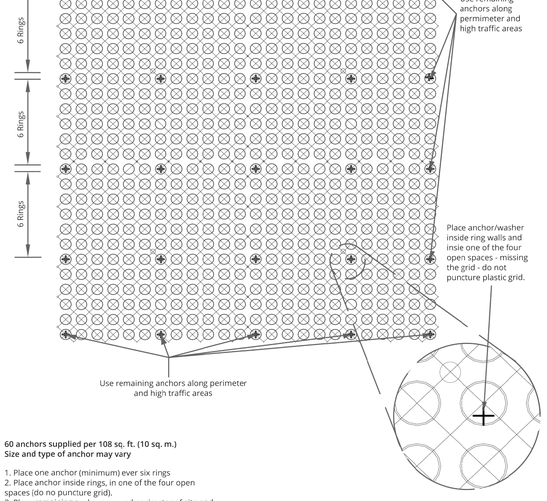
1 of 1

(10)

GRAVELPAVE2 PINNING DETAILS

Choose This Product On How to Pin Gravelpave2

GRAVELPAVE2 BY INVISIBLE STRUCTURES™



60 anchors supplied per 108 sq. ft. (10 sq. m.)
Size and type of anchor may vary

1. Place one anchor (minimum) ever six rings
2. Place anchor inside rings, in one of the four open spaces (do no puncture grid).
3. Place remaining anchors around perimeter of site and in high traffic areas.

InvisibleStructures.com INVISIBLE STRUCTURES 303-233-8383

1 of 1

(10)

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
6		

DETAILS FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

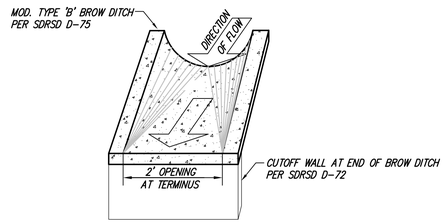
ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

REGISTERED PROFESSIONAL ENGINEER BRENT C. MOORE No. 59121 Exp. 6-30-27 CIVIL STATE OF CALIFORNIA

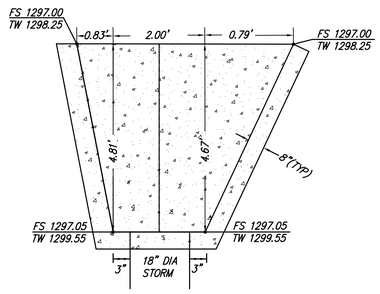
ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP06.dwg 01-20-26



MODIFIED BROW DITCH DEPTH TRANSITION PER SDRSD D-75 (PVT) (35)

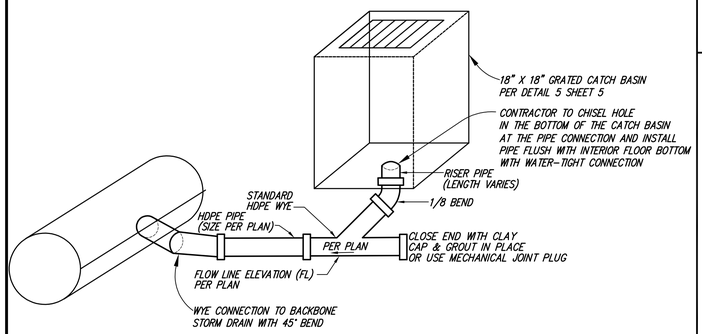
NOT TO SCALE



DETAIL: MODIFIED WING TYPE HEADWALL PER SDRSD D-34 (PVT) (33) @ BIOFILTRATION BASIN

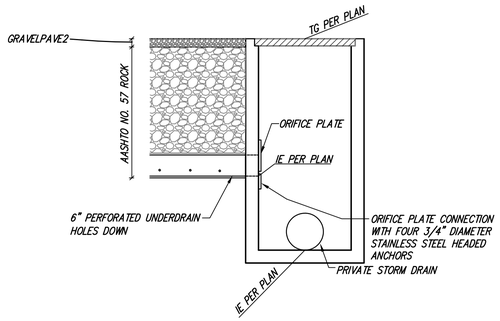
NOT TO SCALE

SEE SDRSD D-34 FOR STEEL AND CONCRETE REQUIREMENTS AND CUTOFF WALL AT EDGE OF HEADWALL



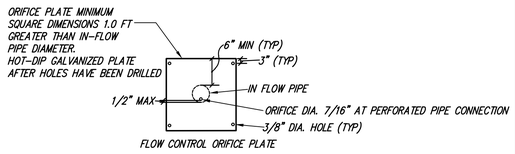
DETAIL: MODIFIED CATCH BASIN WITH BOTTOM OUTLET (PVT) (38) CONNECTION TO BACK BONE STORM DRAIN

NOT TO SCALE



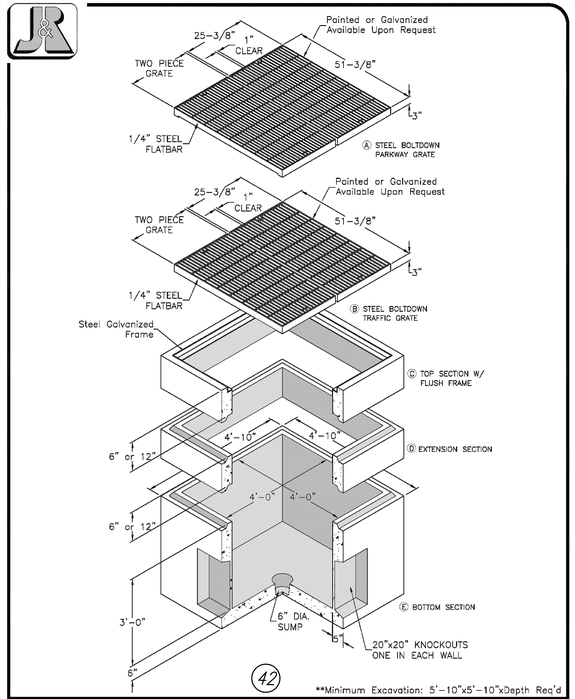
DETAIL: FLOW CONTROL ORIFICES AT 18" X 18" CATCH BASINS (PVT) (5)

NOT TO SCALE



DETAIL: FLOW CONTROL ORIFICE PLATE (PVT)

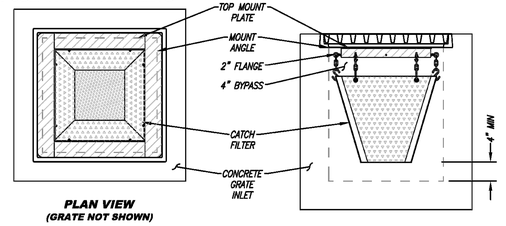
NOT TO SCALE



4'-0" X 4'-0" CLOSED BOTTOM CATCH BASIN W/ STEEL TRAFFIC GRATE or STEEL PARKWAY GRATE

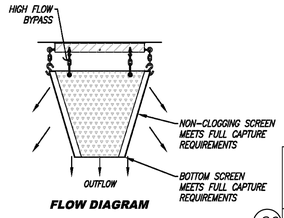
NOTES
1. Traffic Grates Are Designed For AASHTO H-20 Wheel Loading, But Are Not Intended For Direct Traffic Installations.
2. Parkway Grates Are Designed For A Live Load of 300 p.s.f

BIO CLEAN FULL CAPTURE FILTER FOR USE IN GRATE INLETS



PLAN VIEW (GRATE NOT SHOWN)

ELEVATION VIEW



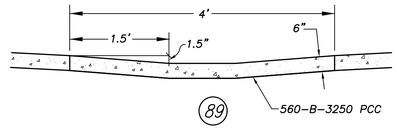
FLOW DIAGRAM

	MODEL #	TREATMENT FLOW RATE (CFS)	BYPASS FLOW (CFS)	SOLIDS STORAGE CAPACITY (CF)
80	BIO-GRATE-FULL 12-12-12	1.04	1.24	0.15
78	BIO-GRATE-FULL 18-18-12	1.78	2.79	0.33
79	BIO-GRATE-FULL 24-24-12	2.70	4.96	0.59
	BIO-GRATE-FULL 24-40-12	3.70	6.35	0.88
	BIO-GRATE-FULL 24-24-24	7.31	4.96	1.22
	BIO-GRATE-FULL 24-40-24	9.53	6.35	1.82
	BIO-GRATE-FULL 36-36-24	11.93	7.74	2.73

INSTALLATION NOTES:

1. ALL HARDWARE, FLANGE, FRAME, SCREENS SHALL BE STAINLESS STEEL
2. OPTIONAL HYDROCARBON BOOM SHALL BE 2" DIAMETER.
3. SEE PERFORMANCE REPORTS IN MANUFACTURES SPECIFICATIONS.
4. OTHER STANDARD AND CUSTOM MODEL SIZES AVAILABLE – CONTACT BIO CLEAN FOR MORE INFORMATION.
5. BASED ON 37% OPEN AREA.
6. CONSIDERS A SAFETY FACTOR OF 2.0.
7. CONSIDERS A LOCAL DEPRESSION PONDING DEPTH OF 6 INCHES.
8. STORAGE CAPACITY BASED ON THE BASKET HALF FULL.
9. CONCRETE STRUCTURES SOLD SEPARATELY.

NOT TO SCALE

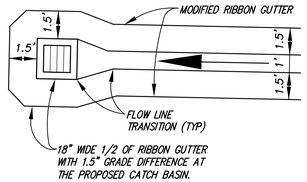


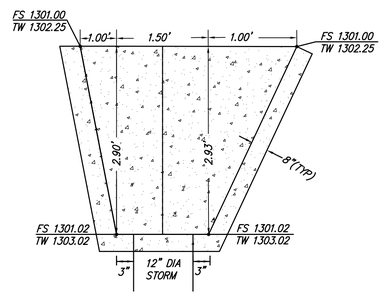
89

RIBBON GUTTER W/ TRENCH DRAIN DETAIL IN CONCRETE PAVEMENT (PVT)

NOT TO SCALE

SECTION SHOWN IS PRELIMINARY ONLY. CONTRACTOR SHALL COORDINATE WITH THE SOILS ENGINEER TO DETERMINE FINAL PAVEMENT SECTION DURING CONSTRUCTION. OWNER SHALL RETAIN A SOILS ENGINEER TO PERFORM THE REQUIRED SOIL TESTING DURING CONSTRUCTION ACTIVITIES AND AS-GRADED REPORTS.





DETAIL: MODIFIED WING TYPE HEADWALL PER SDRSD D-34 (PVT) (87) @ BIOFILTRATION BASIN

NOT TO SCALE

SEE SDRSD D-34 FOR STEEL AND CONCRETE REQUIREMENTS AND CUTOFF WALL AT EDGE OF HEADWALL

REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No. 59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
7		

DETAILS FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

PROPRIETARY AND CONFIDENTIAL:
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CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com

GRATE INLET FILTER
FULL CAPTURE
STANDARD DETAIL

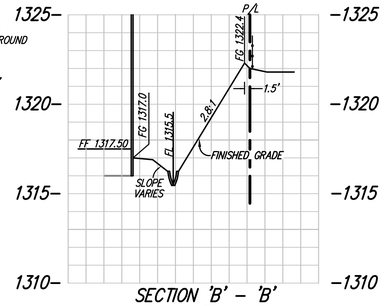
22-3240P07.dwg 01-13-26

(X)	STORM DRAIN DATA (PRIVATE)				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS	SLOPE
1	N 54°00'22" W		40.23'	8" HDPE N-12 W.T.*	0.70%
2	N 80°48'16" E		35.21'	8" HDPE N-12 W.T.*	0.71%
3	N 09°11'44" W		1.94'	8" HDPE N-12 W.T.*	12.37%
4	N 11°49'56" W		93.85'	12" HDPE N-12 W.T.*	1.07%
5	N 88°48'17" W		56.26'	6" HDPE N-12 W.T.*	0.89%
6	N 30°03'14" W		62.99'	6" HDPE N-12 W.T.*	0.80%
7	N 60°37'22" E		63.30'	12" HDPE N-12 W.T.*	1.16%
8	N 17°09'06" W		23.41'	6" HDPE N-12 W.T.*	1.58%
29	N 30°31'04" W		57.15'	6" PERFORATED PVC	0.00%
30	N 30°03'14" W		62.99'	6" PERFORATED PVC	0.00%
31	N 40°46'24" W		107.20'	6" PERFORATED PVC	0.00%
32	N 88°48'17" W		10.61'	6" PERFORATED PVC	0.00%
33	N 11°49'56" W		93.85'	6" PERFORATED PVC	0.00%
34	N 29°22'38" W		139.72'	6" PERFORATED PVC	0.00%
35	N 60°37'22" E		63.30'	6" PERFORATED PVC	0.00%
36	N 88°48'17" W		56.26'	6" PERFORATED PVC	0.00%
46	N 79°23'22" E		44.60'	6" PERFORATED PVC	0.00%
47	N 17°01'04" W		50.00'	6" PERFORATED PVC	0.00%
48	N 17°01'04" W		23.16'	6" PERFORATED PVC	0.00%

*SEE HDPE NOTES THIS SHEET FOR INSTALLATION REQUIREMENTS

HDPE NOTES:

1. INSTALL HDPE STORM DRAIN PER COUNTY OF SAN DIEGO REGIONAL STANDARD DRAWING D-60 WITH FILTER FABRIC AROUND THE PIPE ZONE PER COUNTY OF SAN DIEGO HYDRAULIC DESIGN MANUAL (APPENDIX B.5.2).
2. SEE "POLYPROPYLENE STORM DRAIN PIPE (PPSD) NOTES" ON SHEET 2 FOR ADDITIONAL INSTALLATION REQUIREMENTS.

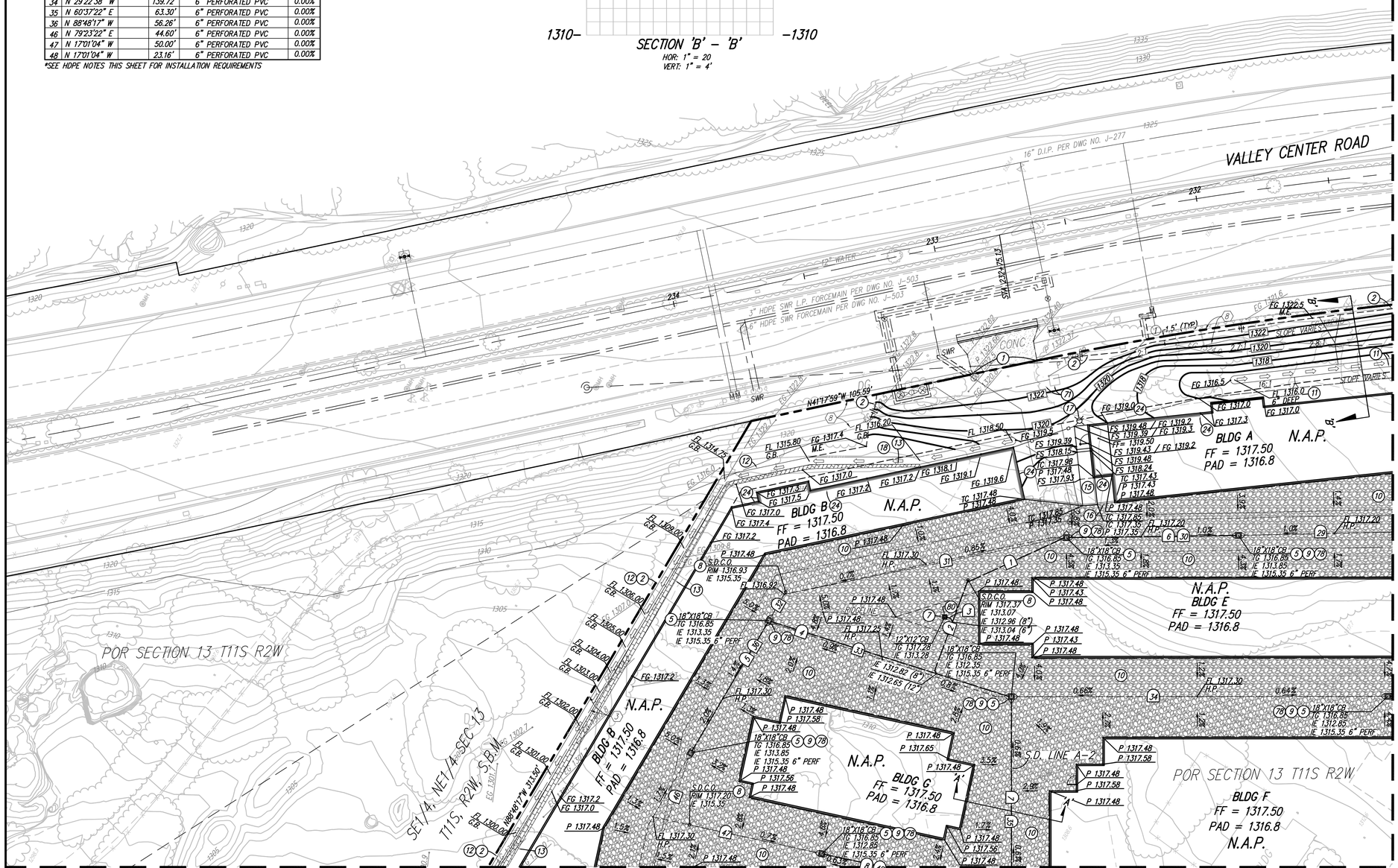


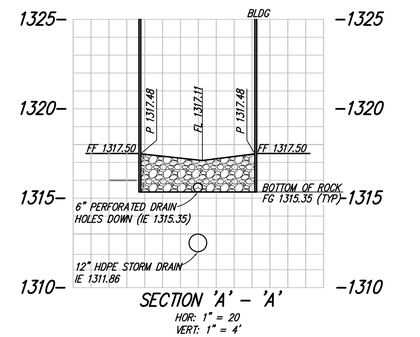
SECTION 'B' – 'B'
HOR: 1" = 20
VERT: 1" = 4'

CONSTRUCTION NOTES

(1) MATCH EXISTING GRADE.
(2) LIMITS OF GRADING.
(5) INSTALL 18" X 18" BROOKS BOX CATCH BASIN OR EQUIVALENT PER DETAIL SHEET 5 WITH 7/16" DIAMETER FLOW CONTROL ORIFICES AT THE PERFORATED DRAIN CONNECTIONS PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.
(7) INSTALL 12" X 12" PRE-CAST GRATED CATCH BASIN PER DETAIL SHEET 5. ELEVATIONS SHOWN PER PLAN.
(8) INSTALL STORM DRAIN CLEANOUT PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.
(9) INSTALL AN UNGLUED PVC SCREW CAP WITH A 7/16" DIAMETER FLOW CONTROL ORIFICE DRILLED INTO THE PVC SCREW CAP AT THE FLOW LINE OF THE PERFORATED UNDERDRAIN PER DETAIL SHEET 7.
(10) INSTALL GRAVELPAVE2 OVERTOP UNDERLYING NO. 57 STONE ROCK SECTION WITH IMPERMEABLE LINER PER DETAILS SHEET 6.
(11) CONSTRUCT MODIFIED TYPE 'B' PCC BROW DITCH PER SDRSD D-75. DEPTH OF DITCH WILL VARY FROM 6" TO 12". ELEVATIONS AND DEPTH SHOWN PER PLAN.
(12) CONSTRUCT TYPE 'B' PCC BROW DITCH PER SDRSD D-75 AT FACE OF PROPOSED RETAINING WALL PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN. CONSTRUCT 12" MAX EXTENDED WALL AT THE DITCH AS NECESSARY TO MEET EXISTING GRADES. IF EXISTING SITE CONDITIONS DICTATE THAT A WALL EXTENSION OVER 12" IS REQUIRED, THEN CONSTRUCT THE WALL EXTENSION PER DETAIL SHEET 6.
(13) CONSTRUCT KEYSTONE TYPE RETAINING WALL WITH SAFETY RAILING. SEE SHEETS 21 THRU 26 FOR RETAINING WALL PLANS PREPARED BY OTHERS.
(14) CONSTRUCT PCC STEPS (N.A.P.). ELEVATIONS SHOWN PER PLAN.
(15) CONSTRUCT 4" THICK CONCRETE SIDEWALK PER SDRSD G-7, G-9 AND G-10 (N.A.P.). PER PROJECT GEOTECHNICAL INVESTIGATION, SIDEWALK SHOULD BE REINFORCED WITH EITHER NO. 3 BARS AT 18 INCHES ON CENTER BOTH WAYS OR 6X6-W2.9/W2.9 (6X6-6/6) WELDED WIRE MESH. ELEVATIONS SHOWN PER PLAN.
(16) CONSTRUCT ZERO FACE CURB PER SDRSD G-1 AND PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.
(17) PROPOSED SITE LIGHT PER ARCHITECTURAL BUILDING PLANS (NOT A PART).
(18) GRADE AREA TO DRAIN TO THE PROPOSED BROW DITCH. CONTRACTOR SHALL ADJUST LIMITS OF GRADING AS NEEDED TO PROVIDE POSITIVE DRAINAGE TOWARDS THE BROW DITCH WITH A MINIMUM GRADE OF 2%.
(24) CONTRACTOR TO CONSTRUCT VARIABLE HEIGHT STEM WALL WHERE ADJACENT GRADE IS GREATER THAN OR EQUAL TO BUILDING FINISH FLOOR (NOT A PART).
(71) PROTECT EXISTING TRANSFORMER AND BOLLARDS IN PLACE.
(78) INSTALL 18-18-12 FULL CAPTURE GRATE INLET FILTER PER DETAIL SHEET 7 OR EQUIVALENT.
(80) INSTALL 12-12-12 FULL CAPTURE GRATE INLET FILTER PER DETAIL SHEET 7 OR EQUIVALENT.

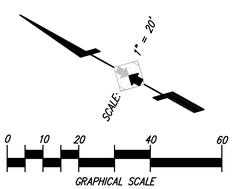
MATCHLINE – SEE SHEET 9





SECTION 'A' – 'A'
HOR: 1" = 20
VERT: 1" = 4'

ALL EXISTING IMPROVEMENTS, SIGNAGE, LANDSCAPING AND IRRIGATION WITHIN LIMITS OF WORK TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE UNLESS NOTED OTHERWISE. SEE LANDSCAPING AND IRRIGATION PLANS FOR ADDITIONAL INFORMATION.



Alidade ENGINEERING
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REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No. 59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

SEE SHEETS 16-17 FOR ONSITE WATER AND SEWER FACILITIES

SEE SHEETS 14-15 FOR PAVEMENT STRUCTURAL SECTIONS

SEE ARCHITECTURAL PLANS FOR BUILDING DETAILS PER BUILDING PERMIT NO. PDS2025-CMASPC-_____.

MATCHLINE – SEE SHEET 10

SEE LANDSCAPE AND IRRIGATION PLANS FOR ALL LANDSCAPING AND IRRIGATION PER PDS2025-LP-25-____.

CONTRACTOR TO CONNECT PROPOSED WALL SUBDRAINS TO PROPOSED STORM DRAIN SYSTEM. LOCATION TO BE DETERMINED IN THE FIELD.

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
8		

PRECISE GRADING PLANS FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP08.dwg 01-13-26

(X)	STORM DRAIN DATA (PRIVATE)				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS	SLOPE
9	N 30°31'04" W		55.91'	6" HDPE N-12 W.T.*	0.98%
10	N 15°32'12" E		28.39'	6" HDPE N-12 W.T.*	6.87%
11	N 79°07'42" E		70.58'	6" HDPE N-12 W.T.*	0.92%
12	N 55°52'18" W		31.38'	6" HDPE N-12 W.T.*	9.69%
13	N 41°35'05" W		70.10'	8" HDPE N-12 W.T.*	0.71%
14	N 60°37'07" E		40.23'	12" HDPE N-12 W.T.*	1.00%
15	N 29°22'38" W		92.25'	6" HDPE N-12 W.T.*	2.60%
16	N 20°49'07" E		81.06'	12" HDPE N-12 W.T.*	1.00%
17	N 69°10'53" W		6.80'	6" HDPE N-12 W.T.*	14.35%
43	N 02°29'02" E		50.11'	6" HDPE N-12 W.T.*	2.93%
44	N 42°30'58" W		7.50'	6" HDPE N-12 W.T.*	8.40%

*SEE HDPE NOTES THIS SHEET FOR INSTALLATION REQUIREMENTS

(X)	STORM DRAIN DATA (PRIVATE)				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS	SLOPE
49	N 30°31'04" W		14.85'	6" PERFORATED PVC	0.00%
50	N 30°31'01" W		75.79'	6" PERFORATED PVC	0.00%
51	N 60°37'11" E		18.72'	6" PERFORATED PVC	0.00%
52	N 41°35'05" W		70.10'	6" PERFORATED PVC	0.00%
53	N 35°23'57" W		30.00'	6" PERFORATED PVC	0.00%
54	N 60°37'11" E		24.99'	6" PERFORATED PVC	0.00%
55	N 24°03'49" E		64.18'	6" PERFORATED PVC	0.00%
56	N 24°01'15" E		35.84'	6" PERFORATED PVC	0.00%
57	N 29°22'38" W		80.00'	6" PERFORATED PVC	0.00%
69	N 44°40'30" E		59.16'	8" HDPE N-12 W.T.*	7.52%

HDPE NOTES:

1. INSTALL HDPE STORM DRAIN PER COUNTY OF SAN DIEGO REGIONAL STANDARD DRAWING D-60 WITH FILTER FABRIC AROUND THE PIPE ZONE PER COUNTY OF SAN DIEGO HYDRAULIC DESIGN MANUAL (APPENDIX B.5.2).
2. SEE "POLYPROPYLENE STORM DRAIN PIPE (PPSD) NOTES" ON SHEET 2 FOR ADDITIONAL INSTALLATION REQUIREMENTS.

CONSTRUCTION NOTES

(2) LIMITS OF GRADING.

(3) CONSTRUCT CURB TRANSITION FROM 6" CURB HEIGHT TO 0" CURB HEIGHT. ELEVATIONS SHOWN PER PLAN.

(5) INSTALL 18" X 18" BROOKS BOX CATCH BASIN OR EQUIVALENT PER DETAIL SHEET 5 WITH A TRAFFIC RATED GRATE WITH 7/16" DIAMETER FLOW CONTROL ORIFICES AT AT THE PERFORATED DRAIN CONNECTIONS PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.

(6) INSTALL 24" X 24" BROOKS BOX CATCH BASIN OR EQUIVALENT PER DETAIL SHEET 5. ELEVATIONS SHOWN PER PLAN.

(8) INSTALL STORM DRAIN CLEANOUT PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.

(9) INSTALL AN UNGLUED PVC SCREW CAP WITH A 7/16" DIAMETER FLOW CONTROL ORIFICE DRILLED INTO THE PVC SCREW CAP AT THE FLOW LINE OF THE PERFORATED UNDERDRAIN PER DETAIL SHEET 7.

(10) INSTALL GRAVELPAVE2 OVERTOP UNDERLYING NO. 57 STONE ROCK SECTION WITH IMPERMEABLE LINER PER DETAILS SHEET 6.

(11) CONSTRUCT MODIFIED TYPE 'B' PCC BROW DITCH PER SDRSD D-75. DEPTH OF DITCH WILL VARY FROM 6" TO 12". ELEVATIONS AND DEPTH SHOWN PER PLAN.

(15) CONSTRUCT 4" THICK CONCRETE SIDEWALK PER SDRSD G-7, G-9 AND G-10. PER PROJECT GEOTECHNICAL INVESTIGATION, SIDEWALK SHOULD BE REINFORCED WITH EITHER NO. 3 BARS AT 18 INCHES ON CENTER BOTH WAYS OR 6X6-W2.9/W2.9 (6X6-6/6) WELDED WIRE MESH. ELEVATIONS SHOWN PER PLAN.

(16) CONSTRUCT ZERO FACE CURB PER SDRSD G-1 AND PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.

(17) PROPOSED SITE LIGHT PER ARCHITECTURAL BUILDING PLANS (NOT A PART).

(19) CONSTRUCT TYPE 'B' PCC BROW DITCH PER SDRSD D-75. ELEVATIONS SHOWN PER PLAN.

(20) CONSTRUCT MODIFIED TYPE 'B' BROW DITCH PER SDRSD D-75 AND DETAIL SHEET 6 AT CATCH BASIN. ELEVATIONS SHOWN PER PLAN AND DETAIL.

(21) INSTALL LANDSCAPE AREA DRAIN PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.

(22) EXISTING POWER POLE TO BE REMOVED BY OTHERS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

(23) CONSTRUCT TYPE 'A-4' CLEANOUT PER SDRSD D-9. ELEVATIONS SHOWN PER PLAN.

(24) CONTRACTOR TO CONSTRUCT VARIABLE HEIGHT STEM WALL WHERE ADJACENT GRADE IS GREATER THAN OR EQUAL TO BUILDING FINISH FLOOR ELEVATION (NOT A PART).

(25) SAW CUT

(26) GRADE AREA TO DRAIN TO LANDSCAPE AREA DRAIN. ELEVATIONS SHOWN PER PLAN.

(27) CONSTRUCT MODIFIED TYPE 'G' CURB TO BE DEEPENED WITH A MINIMUM 12" EMBEDMENT BELOW THE ADJACENT SIDEWALK GRADE. ELEVATIONS SHOWN PER PLAN.

(28) CONSTRUCT TRASH ENCLOSURE PER ARCHITECTURAL BUILDING PLANS (NOT A PART).

(72) GRADE PLANTER AREA TO DRAIN TO PARKING LOT OR ADJACENT ACCESS ROAD.

(73) INSTALL CONCRETE WHEEL STOP PER DETAIL SHEET 5 AND PER SDRSD M-27A.

(76) INSTALL LANDSCAPE AREA DRAIN IN HARDSCAPE PER DETAIL SHEET 6. TG = 1316.82, IE = 1312.82.

(77) INSTALL LANDSCAPE AREA DRAIN IN LANDSCAPING PER DETAIL SHEET 6. TG 1317.00, IE 1313.00.

(78) INSTALL 18-18-12 FULL CAPTURE GRATE INLET FILTER PER DETAIL SHEET 7 OR EQUIVALENT.

(79) INSTALL 24-24-12 FULL CAPTURE GRATE INLET FILTER PER DETAIL SHEET 7 OR EQUIVALENT.

(83) INSTALL 18" X 18" CATCH BASIN PER DETAIL 5 ON SHEET 5 WITH A TRAFFIC RATED GRATE. ELEVATIONS SHOWN PER PLAN.

(84) CONSTRUCT MASONRY RETAINING WALL WITH PEDESTRIAN RATED SAFETY RAILING. SEE RETAINING WALL PLANS (SHEET 28 THRU 32) FOR CONSTRUCTION DETAILS, SPECS AND WALL ELEVATIONS.

(85) SAW CUT, REMOVE AND PROPERLY DISPOSE OF OFFSITE PORTION OF EXISTING BROW DITCH AND CONSTRUCT A TYPE 'B' BROW DITCH TRANSITION FROM THE END OF THE EXISTING BROW DITCH TO A TYPE "I" CATCH BASIN OPENING PER DETAIL SHEET 5. ELEVATIONS SHOWN PER PLAN.

(86) CONSTRUCT TYPE "I" CATCH BASIN AT BACK OF EXISTING AND PROPOSED RETAINING WALLS PER SDRSD D-7, D-11A AND D-11B. ELEVATIONS SHOWN PER PLAN.

MATCH LINE - SEE SHEET 8

MATCHLINE - SEE SHEET 11

ALL EXISTING IMPROVEMENTS, SIGNAGE, LANDSCAPING AND IRRIGATION WITHIN LIMITS OF WORK TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE UNLESS NOTED OTHERWISE. SEE LANDSCAPING AND IRRIGATION PLANS FOR ADDITIONAL INFORMATION.

SCALE: 1" = 20'

0 10 20 40 60

GRAPHICAL SCALE

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER BRENT C. MOORE No. 59121 Exp. 6-30-27 CIVIL STATE OF CALIFORNIA

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES. (X)

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

SEE SHEETS 16-17 FOR ONSITE WATER AND SEWER FACILITIES

SEE SHEETS 14-15 FOR PAVEMENT STRUCTURAL SECTIONS

SEE ARCHITECTURAL PLANS FOR BUILDING DETAILS PER BUILDING PERMIT NO. PDS2025-CMASPC-_____.

SEE LANDSCAPE AND IRRIGATION PLANS FOR ALL LANDSCAPING AND IRRIGATION PER PDS2025-LP-25-____.

CONTRACTOR TO CONNECT PROPOSED WALL SUBDRAINS TO PROPOSED STORM DRAIN SYSTEM. LOCATION TO BE DETERMINED IN THE FIELD.

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
9		

PRECISE GRADING PLANS FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380-1750

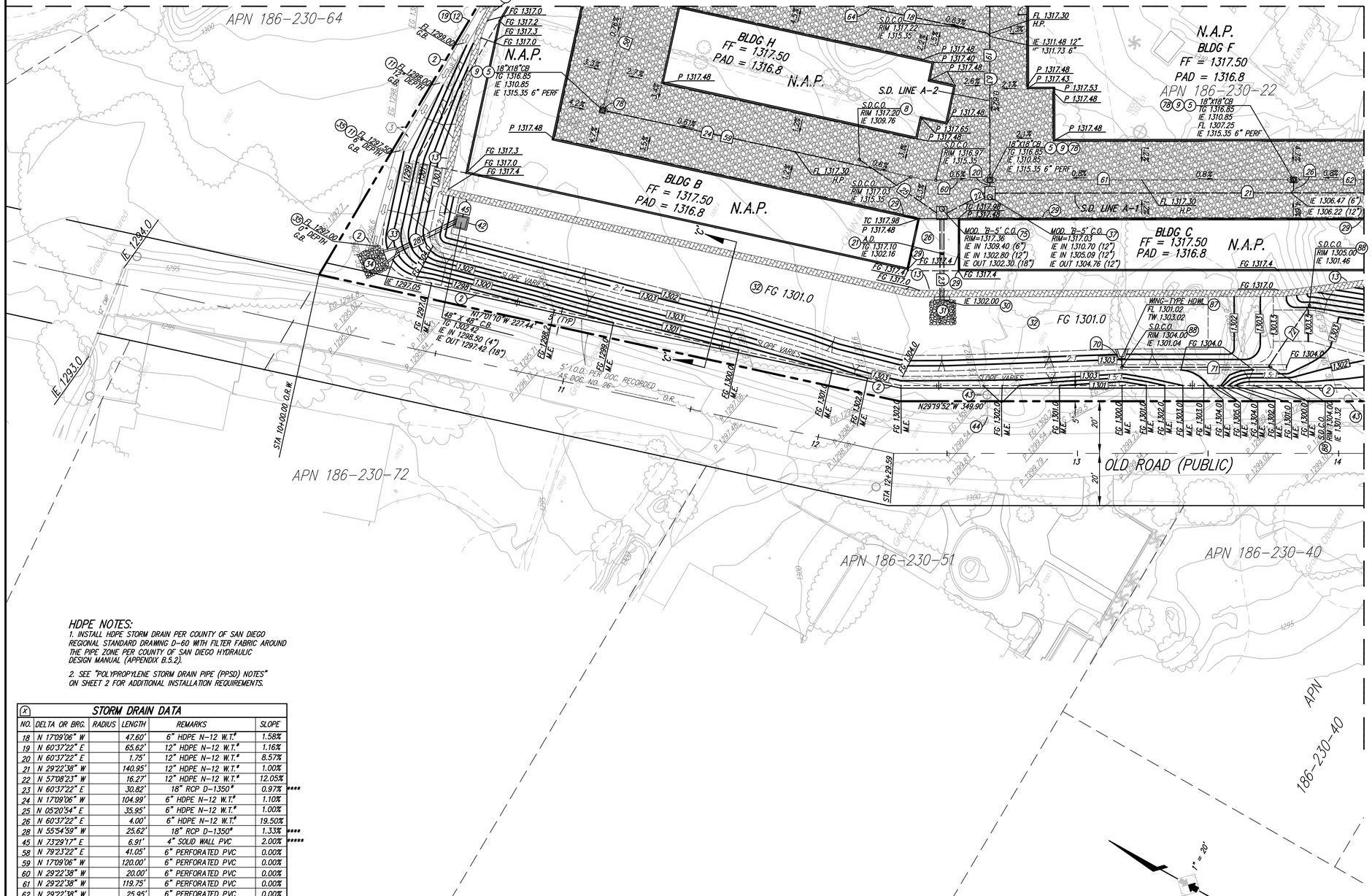
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-3242GP09.dwg 01-13-26



CONSTRUCTION NOTES

(2) LIMITS OF GRADING.

(5) INSTALL 18" X 18" BROOKS BOX CATCH BASIN OR EQUIVALENT PER DETAIL SHEET 5 WITH A TRAFFIC RATED GRATE WITH 7/16" DIAMETER FLOW CONTROL ORIFICES AT THE PERFORATED DRAIN CONNECTIONS PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.

(8) INSTALL STORM DRAIN CLEANOUT PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.

(9) INSTALL AN UNGLUED PVC SCREW CAP WITH A 7/16" DIAMETER FLOW CONTROL ORIFICE DRILLED INTO THE PVC SCREW CAP AT THE FLOW LINE OF THE PERFORATED UNDERDRAIN PER DETAIL SHEET 7.

(10) INSTALL GRAVELPAVE2 OVERTOP UNDERLYING NO. 57 STONE ROCK SECTION WITH IMPERMEABLE LINER PER DETAILS SHEET 6.

(11) CONSTRUCT MODIFIED TYPE 'B' PCC BROW DITCH PER SDRSD D-75. DEPTH OF DITCH WILL VARY FROM 6" TO 12". ELEVATIONS AND DEPTH SHOWN PER PLAN.

(12) CONSTRUCT TYPE 'B' PCC BROW DITCH PER SDRSD D-75 AT FACE OF PROPOSED RETAINING WALL PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN. CONSTRUCT 12" MAX EXTENDED WALL AT THE DITCH AS NECESSARY TO MEET EXISTING GRADES. IF EXISTING SITE CONDITIONS DICTATE THAT A WALL EXTENSION OVER 12" IS REQUIRED, THEN CONSTRUCT THE WALL EXTENSION PER DETAIL SHEET 6.

(13) CONSTRUCT KEYSTONE TYPE RETAINING WALL WITH SAFETY RAILING. SEE SHEETS 21 THRU 26 FOR RETAINING WALL PLANS PREPARED BY OTHERS.

(19) CONSTRUCT TYPE 'B' PCC BROW DITCH PER SDRSD D-75. ELEVATIONS SHOWN PER PLAN. CONSTRUCT 12" MAX EXTENDED WALL AT THE DITCH AS NECESSARY TO MEET EXISTING GRADES. IF EXISTING SITE CONDITIONS DICTATE THAT A WALL EXTENSION OVER 12" IS REQUIRED, THEN CONSTRUCT THE WALL EXTENSION PER DETAIL SHEET 6.

(21) INSTALL LANDSCAPE AREA DRAIN PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.

(23) CONSTRUCT TYPE 'A-4' CLEANOUT PER SDRSD D-9. ELEVATION SHOWN PER PLAN.

(26) GRADE AREA TO DRAIN TO LANDSCAPE AREA DRAIN. ELEVATIONS SHOWN PER PLAN.

(29) CONTRACTOR TO CONSTRUCT VARIABLE DEPTH DEEPENED FOOTING IN ORDER TO NOT LOAD THE PROPOSED STORM DRAIN ADJACENT TO THE BUILDING (NOT A PART).

(30) CONSTRUCT TYPE 'B' STRAIGHT HEADWALL PER SDRSD D-32 ADJACENT TO THE KEYSTONE RETAINING WALL AS SHOWN ON DETAIL 'L' ON SHEET 26. CONTRACTOR TO END 18" STORM DRAIN AT FACE OF HEADWALL.

(31) INSTALL RIP RAP ENERGY DISSIPATER PER SDRSD D-40, TYPE 2, 10' LONG BY 10' WIDE. INSTALL NO. 2 BACKING RIP RAP 1.1' THICK OVER MIRAFI 140N FILTER FABRIC OR EQUIVALENT. (Q100 = 7.2 CFS, V100 = 6.3 FPS).

(32) CONSTRUCT INFILTRATION BASIN PER DETAIL(S) SHEET 6. ELEVATIONS SHOWN PER PLAN.

(33) CONSTRUCT MODIFIED WING-TYPE HEADWALL PER SDRSD D-34 AND DETAIL ON SHEET 7. ELEVATIONS SHOWN PER PLAN AND DETAIL.

(34) INSTALL RIP RAP ENERGY DISSIPATER PER SDRSD D-40, TYPE 2, 10' LONG BY 10' WIDE. INSTALL NO. 2 BACKING RIP RAP 1.1' THICK OVER MIRAFI 140N FILTER FABRIC OR EQUIVALENT. (Q100 = 5.51 CFS, V100 = 6.7 FPS)

(35) CONSTRUCT MODIFIED TYPE 'B' PCC BROW DITCH PER SDRSD D-75 AND DETAIL SHEET 7. DEPTH OF DITCH WILL VARY FROM 6" TO 0" AT THE OUTLET. CONSTRUCT CUTOFF WALL AT END OF BROW DITCH PER SDRSD D-72. ELEVATIONS AND DEPTH SHOWN PER PLAN.

(37) CONSTRUCT EXTENDED DEPTH TYPE 'B-5' CLEANOUT PER SDRSD D-10 AND STRUCTURAL DETAILS SHEET 19. ELEVATIONS SHOWN PER PLAN.

(38) INSTALL MODIFIED 18" X 18" BROOKS BOX CATCH BASIN OR EQUIVALENT PER DETAIL 5 ON SHEET 5. DUE TO DEPTH OF STORM DRAIN, OUTLET SHALL BE MADE FROM THE BOTTOM OF THE BOX PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.

(42) INSTALL 48" X 48" PRECAST GRATED CATCH BASIN PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.

(43) EXISTING POWER POLE TO BE PROTECTED IN PLACE.

(44) EXISTING GUY WIRE TO BE PROTECTED IN PLACE.

(75) CONSTRUCT EXTENDED DEPTH TYPE 'B-5' CLEANOUT PER SDRSD D-10 AND STRUCTURAL DETAILS SHEET 20. ELEVATIONS SHOWN PER PLAN.

(78) INSTALL 18-18-12 FULL CAPTURE GRATE INLET FILTER PER DETAIL SHEET 7 OR EQUIVALENT.

(87) CONSTRUCT MODIFIED WING-TYPE HEADWALL PER SDRSD D-34 AND DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN AND DETAIL. Q100 = 0.62 CFS, V100 = 2.93 FPS.

(88) CONSTRUCT STORM DRAIN CLEAN OUT IN LANDSCAPING PER DETAIL SHEET 5. ELEVATIONS SHOWN PER PLAN.

HDPE NOTES:

1. INSTALL HDPE STORM DRAIN PER COUNTY OF SAN DIEGO REGIONAL STANDARD DRAWING D-60 WITH FILTER FABRIC AROUND THE PIPE ZONE PER COUNTY OF SAN DIEGO HYDRAULIC DESIGN MANUAL (APPENDIX B.5.2).

2. SEE "POLYPROPYLENE STORM DRAIN PIPE (PPSD) NOTES" ON SHEET 2 FOR ADDITIONAL INSTALLATION REQUIREMENTS.

STORM DRAIN DATA

(x) NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS	SLOPE
18	N 17°09'06" W		47.60'	6" HDPE N-12 W.T.*	1.58%
19	N 60°37'22" E		65.62'	12" HDPE N-12 W.T.*	1.16%
20	N 60°37'22" E		1.75'	12" HDPE N-12 W.T.*	8.57%
21	N 29°22'38" W		140.95'	12" HDPE N-12 W.T.*	1.00%
22	N 57°08'23" W		16.27'	12" HDPE N-12 W.T.*	12.05%
23	N 60°37'22" E		30.82'	18" RCP D-1350*	0.97% ****
24	N 17°09'06" W		104.99'	6" HDPE N-12 W.T.*	1.10%
25	N 05°20'54" E		35.95'	6" HDPE N-12 W.T.*	1.00%
26	N 60°37'22" E		4.00'	6" HDPE N-12 W.T.*	19.50%
28	N 55°54'59" W		25.62'	18" RCP D-1350*	1.33% ****
45	N 73°29'17" E		6.91'	4" SOLID WALL PVC	2.00% *****
58	N 79°23'22" E		41.05'	6" PERFORATED PVC	0.00%
59	N 17°09'06" W		120.00'	6" PERFORATED PVC	0.00%
60	N 29°22'38" W		20.00'	6" PERFORATED PVC	0.00%
61	N 29°22'38" W		119.75'	6" PERFORATED PVC	0.00%
62	N 29°22'38" W		25.95'	6" PERFORATED PVC	0.00%
63	N 60°37'22" E		65.62'	6" PERFORATED PVC	0.00%
64	N 17°01'04" W		36.84'	6" PERFORATED PVC	0.00%
70	N 60°40'04" W		3.07'	12" HDPE N-12 W.T.*	0.65%
71	N 29°19'56" W		55.00'	12" HDPE N-12 W.T.*	0.51%
72	N 85°35'55" W		27.53'	12" HDPE N-12 W.T.*	0.51%

*SEE HDPE NOTES THIS SHEET FOR INSTALLATION REQUIREMENTS

**** 18" RCP PIPE TO BE TONGUE IN GROOVE TYPE PIPE WITH WATER-TIGHT JOINTS.

*****CONNECT TO KEYSTONE RETAINING WALL SUBDRAIN WITH WATER-TIGHT CONNECTION.

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

SEE SHEETS 16-17 FOR ONSITE WATER AND SEWER FACILITIES

SEE SHEETS 14-15 FOR PAVEMENT STRUCTURAL SECTIONS

SEE ARCHITECTURAL PLANS FOR BUILDING DETAILS PER BUILDING PERMIT NO. PDS2025-CMASPC-_____.

ALL EXISTING IMPROVEMENTS, SIGNAGE, LANDSCAPING AND IRRIGATION WITHIN LIMITS OF WORK TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE UNLESS NOTED OTHERWISE. SEE LANDSCAPING AND IRRIGATION PLANS FOR ADDITIONAL INFORMATION.

SEE LANDSCAPE AND IRRIGATION PLANS FOR ALL LANDSCAPING AND IRRIGATION PER PDS2025-LP-25-____.

CONTRACTOR TO CONNECT PROPOSED WALL SUBDRAINS TO PROPOSED STORM DRAIN SYSTEM. LOCATION TO BE DETERMINED IN THE FIELD.

SCALE: 1" = 20'

0 10 20 40 60
GRAPHICAL SCALE

RECORD PLAN

BY: _____ DATE: _____
NAME

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"

LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD

RECORD FROM: COUNTY OF SAN DIEGO

ELEVATION: 1314.45 DATUM: M.S.L.

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No. 59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
10		

PRECISE GRADING PLANS FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER

BY: _____

DATE: _____

ENGINEER OF WORK

DATE: _____

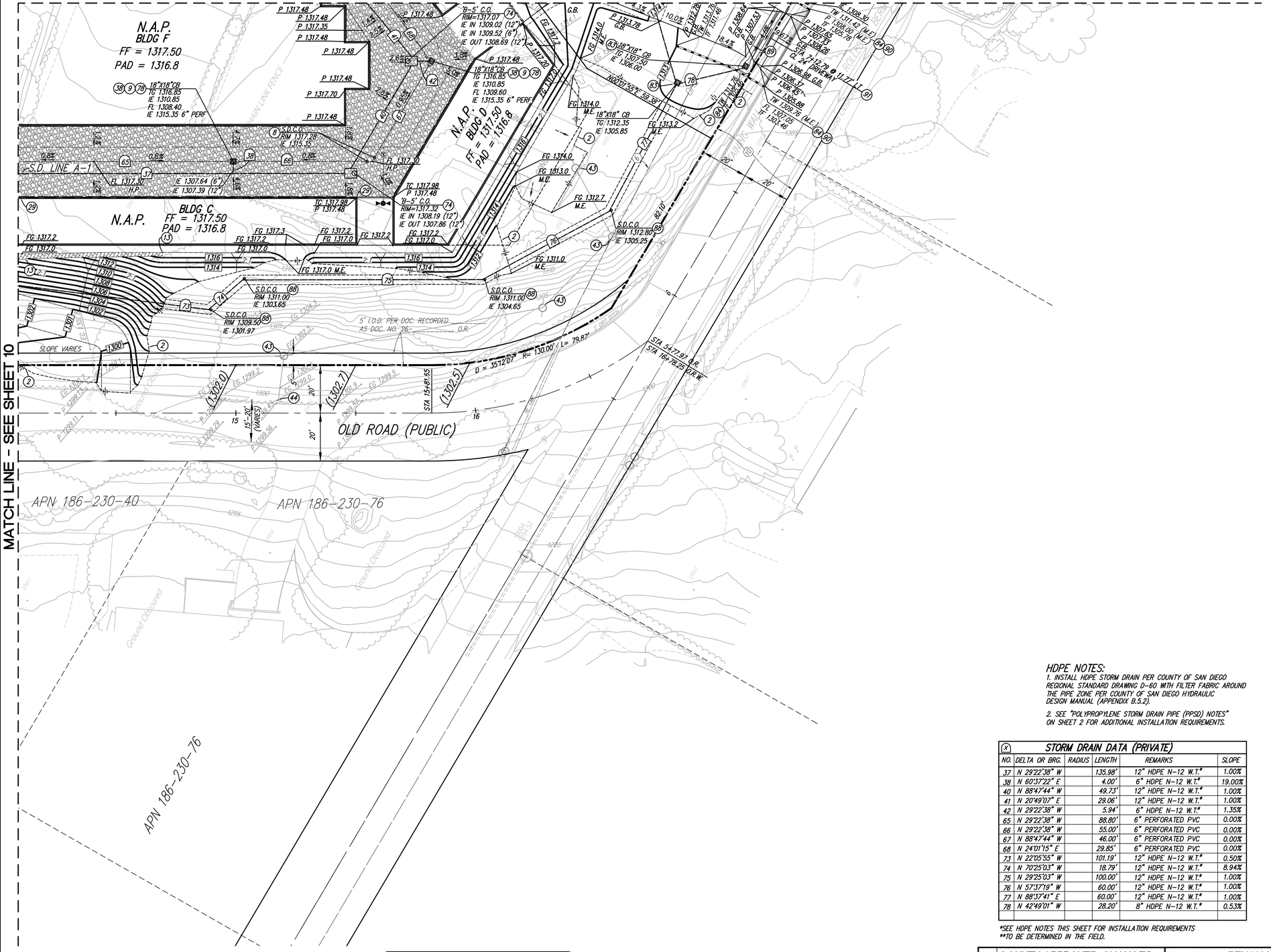
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP10.dwg 01-21-26

MATCHLINE - SEE SHEET 9



MATCH LINE - SEE SHEET 10

CONSTRUCTION NOTES

(2) LIMITS OF GRADING.

(5) INSTALL 18" X 18" BROOKS BOX CATCH BASIN OR EQUIVALENT PER DETAIL SHEET 5 WITH A TRAFFIC RATED GRATE WITH 7/16" DIAMETER FLOW CONTROL ORIFICES AT THE PERFORATED DRAIN CONNECTIONS PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.

(8) INSTALL STORM DRAIN CLEANOUT PER DETAIL SHEET 6. ELEVATIONS SHOWN PER PLAN.

(9) INSTALL AN UNGLUED PVC SCREW CAP WITH A 7/16" DIAMETER FLOW CONTROL ORIFICE DRILLED INTO THE PVC SCREW CAP AT THE FLOW LINE OF THE PERFORATED UNDERDRAIN PER DETAIL SHEET 7.

(13) CONSTRUCT KEYSTONE TYPE RETAINING WALL WITH SAFETY RAILING. SEE SHEETS 21 THRU 26 FOR RETAINING WALL PLANS PREPARED BY OTHERS.

(29) CONTRACTOR TO CONSTRUCT VARIABLE DEPTH DEEPENED FOOTING IN ORDER TO NOT LOAD THE PROPOSED STORM DRAIN ADJACENT TO THE BUILDING (NOT A PART).

(38) INSTALL MODIFIED 18" X 18" BROOKS BOX CATCH BASIN OR EQUIVALENT PER DETAIL 5 ON SHEET 5. DUE TO DEPTH OF STORM DRAIN, OUTLET SHALL BE MADE FROM THE BOTTOM OF THE BOX PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.

(43) EXISTING POWER POLE TO BE PROTECTED IN PLACE.

(44) EXISTING GUY WIRE TO BE PROTECTED IN PLACE.

(74) CONSTRUCT TYPE "B-5" CLEANOUT PER SDRSD D-10. ELEVATIONS SHOWN PER PLAN.

(78) INSTALL 18-18-12 FULL CAPTURE GRATE INLET FILTER PER DETAIL SHEET 7 OR EQUIVALENT.

(83) INSTALL 18" X 18" CATCH BASIN PER DETAIL 5 ON SHEET 5 WITH A TRAFFIC RATED GRATE. ELEVATIONS SHOWN PER PLAN.

(84) CONSTRUCT MASONRY RETAINING WALL WITH PEDESTRIAN RATED SAFETY RAILING. SEE RETAINING WALL PLANS (SHEET 28 THRU 32) FOR CONSTRUCTION DETAILS, SPECS AND WALL ELEVATIONS.

(88) CONSTRUCT STORM DRAIN CLEAN OUT IN LANDSCAPING PER DETAIL SHEET 5. ELEVATIONS SHOWN PER PLAN.

(89) CONSTRUCT MODIFIED RIBBON GUTTER PER DETAIL SHEET 7. ELEVATIONS SHOWN PER PLAN.

(90) SAW CUT, REMOVE AND PROPERLY DISPOSE OF OFFSITE PORTION OF EXISTING RETAINING WALL, FOOTING, AND CONCRETE BROW DITCH WITHIN LIMITS OF WORK.

(91) CONSTRUCT MODIFIED 24' WIDE CONCRETE DRIVEWAY PER SDRSD G-26. DRIVEWAY MODIFIED DUE TO NO EXISTING SIDEWALK ON OLD ROAD. ELEVATIONS SHOWN PER PLAN.

HDPE NOTES:

1. INSTALL HDPE STORM DRAIN PER COUNTY OF SAN DIEGO REGIONAL STANDARD DRAWING D-60 WITH FILTER FABRIC AROUND THE PIPE ZONE PER COUNTY OF SAN DIEGO HYDRAULIC DESIGN MANUAL (APPENDIX B.5.2).

2. SEE "POLYPROPYLENE STORM DRAIN PIPE (PPSD) NOTES" ON SHEET 2 FOR ADDITIONAL INSTALLATION REQUIREMENTS.

(X) STORM DRAIN DATA (PRIVATE)

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS	SLOPE
37	N 29°22'38" W		135.98'	12" HDPE N-12 W.T.*	1.00%
38	N 60°37'22" E		4.00'	6" HDPE N-12 W.T.*	19.00%
40	N 88°47'44" W		49.73'	12" HDPE N-12 W.T.*	1.00%
41	N 20°49'07" E		29.06'	12" HDPE N-12 W.T.*	1.00%
42	N 29°22'38" W		5.94'	6" HDPE N-12 W.T.*	1.35%
65	N 29°22'38" W		88.80'	6" PERFORATED PVC	0.00%
66	N 29°22'38" W		55.00'	6" PERFORATED PVC	0.00%
67	N 88°47'44" W		46.00'	6" PERFORATED PVC	0.00%
68	N 24°01'15" E		29.85'	6" PERFORATED PVC	0.00%
73	N 22°05'55" W		101.19'	12" HDPE N-12 W.T.*	0.50%
74	N 70°25'03" W		18.79'	12" HDPE N-12 W.T.*	8.94%
75	N 29°25'03" W		100.00'	12" HDPE N-12 W.T.*	1.00%
76	N 57°37'19" W		60.00'	12" HDPE N-12 W.T.*	1.00%
77	N 88°37'41" E		60.00'	12" HDPE N-12 W.T.*	1.00%
78	N 42°49'01" W		28.20'	8" HDPE N-12 W.T.*	0.53%

*SEE HDPE NOTES THIS SHEET FOR INSTALLATION REQUIREMENTS
**TO BE DETERMINED IN THE FIELD.

ALL EXISTING IMPROVEMENTS, SIGNAGE, LANDSCAPING AND IRRIGATION WITHIN LIMITS OF WORK TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE UNLESS NOTED OTHERWISE. SEE LANDSCAPING AND IRRIGATION PLANS FOR ADDITIONAL INFORMATION.

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No. 59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

SEE SHEETS 16-17 FOR ONSITE WATER AND SEWER FACILITIES

SEE SHEETS 14-15 FOR PAVEMENT STRUCTURAL SECTIONS

SEE ARCHITECTURAL PLANS FOR BUILDING DETAILS PER BUILDING PERMIT NO. PDS2025-CMASPC-_____.

SEE LANDSCAPE AND IRRIGATION PLANS FOR ALL LANDSCAPING AND IRRIGATION PER PDS2025-LP-25-___.

CONTRACTOR TO CONNECT PROPOSED WALL SUBDRAINS TO PROPOSED STORM DRAIN SYSTEM. LOCATION TO BE DETERMINED IN THE FIELD.

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET		
11	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS

PRECISE GRADING PLANS FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380-1750

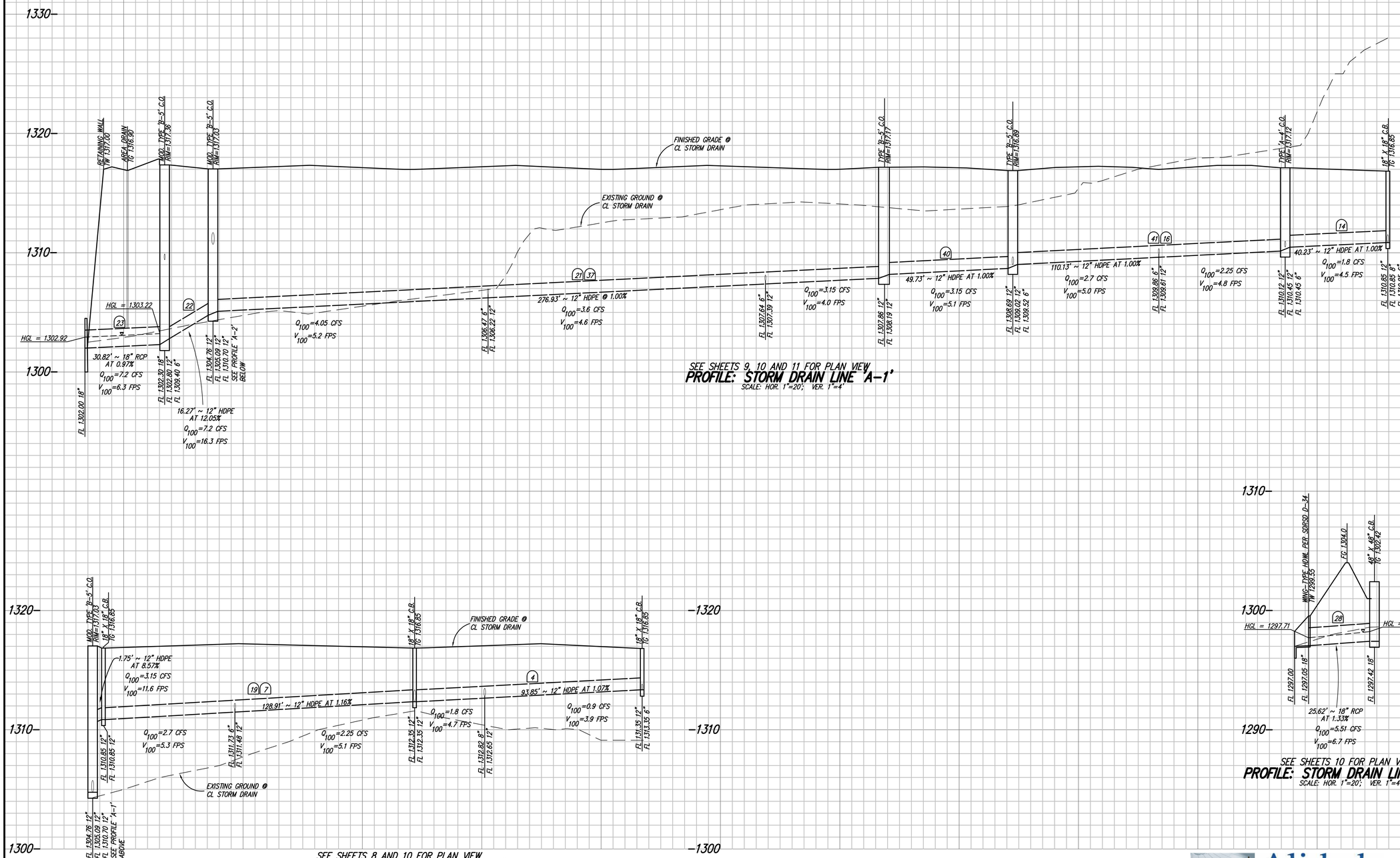
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP11.dwg 01-13-26



CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

SEE IMPROVEMENT PLAN PDS2024-LDPIIP-_____ FOR WATER AND SEWER FACILITIES WITHIN THE PUBLIC EASEMENT TO VCMWD.

SEE ARCHITECTURAL PLANS FOR BUILDING DETAILS PER BUILDING PERMIT NO. PDS2024-CMASPC-_____.

SEE LANDSCAPE AND IRRIGATION PLANS FOR ALL LANDSCAPING AND IRRIGATION PER PDS2024-LP-24-___.

CONTRACTOR TO CONNECT PROPOSED WALL SUBDRAINS TO PROPOSED STORM DRAIN SYSTEM. LOCATION TO BE DETERMINED IN THE FIELD.

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

REGISTERED PROFESSIONAL ENGINEER — BRENT C MOORE — No. 59121 — Exp. 6-30-27 — CIVIL — STATE OF CALIFORNIA

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FAX: (951) 587-2626

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
12		

STORM DRAIN PROFILES FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

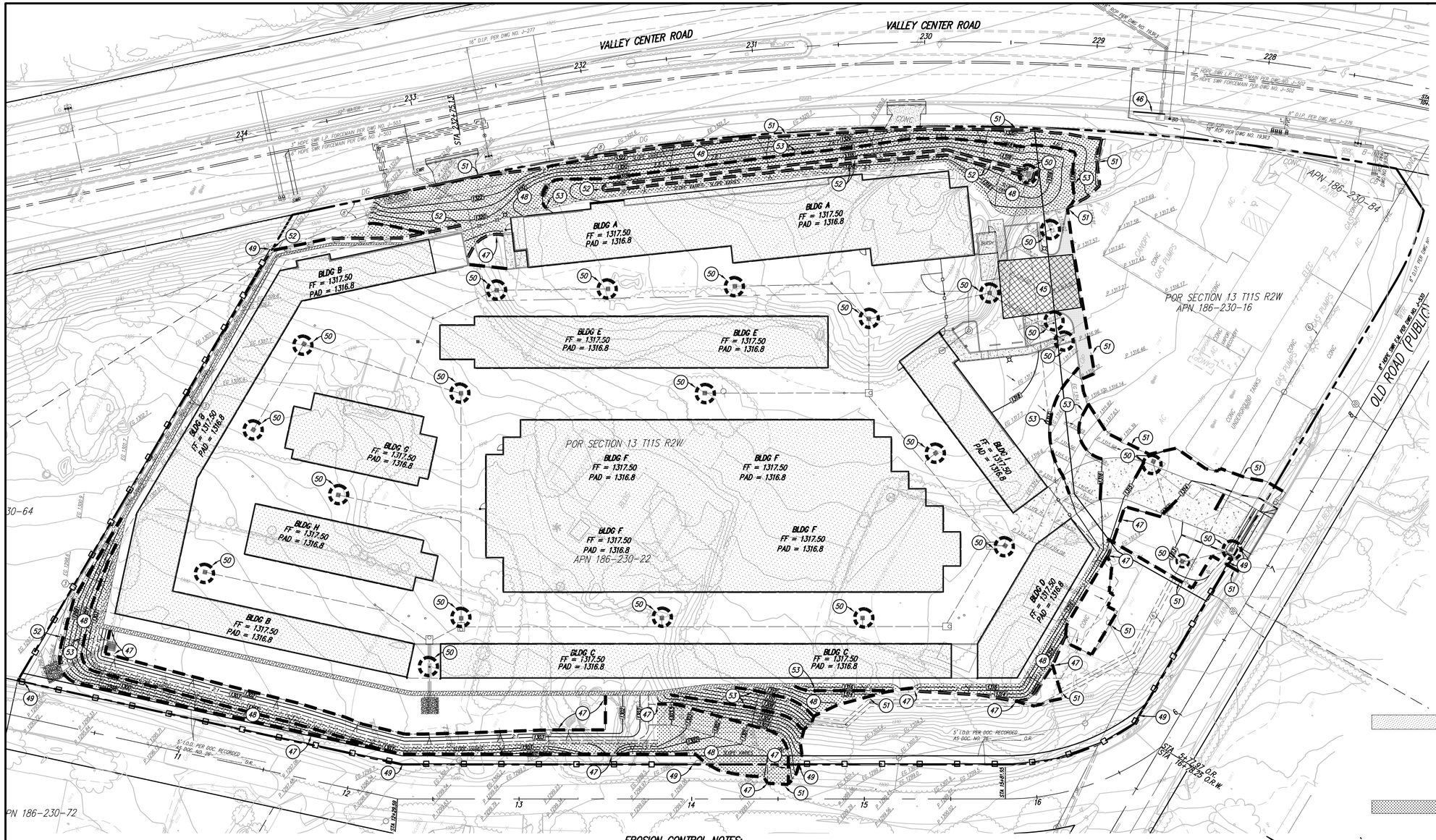
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP12.dwg 01-21-26



LEGEND:

DESCRIPTION	SYMBOL
STABILIZED CONSTRUCTION ENTRANCE (TC-1)	
SILT FENCE (SC-1)	
FIBER ROLLS (SC-5)	
ENERGY DISSIPATER OUTLET PROTECTION (EC-10)	
FIBER ROLLS CIRCLE (SC-5)	
CONCRETE WASTE MANAGEMENT* (WM-6 & WM-8)	CONCRETE WASTE
SANITARY WASTE MANAGEMENT* (WM-9)	SANITARY
CONCRETE WASHOUT FACILITIES* (WM-8)	CONCRETE WASH
WASTE MANAGEMENT FACILITIES* (WM 5 & 10)	WASTE MNGMT.
MATERIAL DELIVERY AND STORAGE* (WM-1)	MATERIAL STORAGE
STREET SWEEPING AND VACUUMING* (SE-7)	STREET SWEEPING
STOCKPILE MANAGEMENT* (WM-3)	STOCKPILE MNGMT.
VEHICLE STORAGE AND SERVICE AREA* (NS 8, 9 & 10)	VEHICLE STORAGE
EQUIPMENT STORAGE AND SERVICE AREA* (NS 8, 9 & 10)	EQUIPMENT STORAGE
SPILL PREVENTION AND CONTROL* (WM-4)	SPILL PREVENT
WATER CONSERVATION PRACTICES* (NS-1)	WATER CONSERVE

* CONTRACTOR TO DETERMINE LOCATION(S) IN FIELD, LOCATIONS MAY CHANGE THROUGHOUT THE DURATION OF CONSTRUCTION.

FLAT AREAS OF LESS THAN 5% (LIKE BUILDING PADS, PARKING AREAS, LEACH FIELDS) SHALL HAVE 100% PROTECTION USING GEOTEXTILES, MATS (EC-7), OR OTHER MATERIALS APPROVED BY THE TOWN FOR STABILIZING SLOPES, OR USING TRACKING AND SOIL STABILIZERS/BINDERS (EC-5), TEMPORARY SEEDING (EC-4), MULCH/WOOD CHIPS (EC-3, EC-6, EC-8), OR JUTE MATTING (EC-7). AREAS OF GRADED PADS THAT HAVE ACTIVE STRUCTURE CONSTRUCTION UNDERWAY MAY BE PROTECTED BY ROLLED PLASTIC AS PART OF A WEATHER-TRIGGERED ACTION PLAN UNTIL THE STRUCTURE'S ROOF HAS BEEN COMPLETED. THE REMAINDER OF THE PAD AREA MUST CONTINUE TO BE PROTECTED USING EROSION CONTROL MEASURES IDENTIFIED ABOVE.

APPLY BONDED FIBER MATRIX TO ALL SLOPES OVER 3' HEIGHT PER SAN DIEGO COUNTY STANDARDS. SEE BONDED FIBER MATRIX NOTES ON SHEET 3.

EROSION CONTROL NOTES:

(45) INSTALL STABILIZED CONSTRUCTION ENTRANCE PER DETAIL SHEET 5. CONTRACTOR TO DIRECT CONSTRUCTION TRAFFIC THROUGH THE STABILIZED CONSTRUCTION ENTRANCE AT ALL TIMES.

(46) INSTALL ERTEC CURB INLET GUARD PER DETAIL SHEET 5 OR EQUIVALENT.

(47) INSTALL FIBER ROLLS AT TOE OF SLOPE PER DETAIL SHEET 5.

(48) APPLY HYDROSEED WITH BONDED FIBER MATRIX ON SLOPES FOR EROSION CONTROL PURPOSES.

(49) INSTALL SILT FENCE AT PROPERTY LINE PER DETAIL SHEET 5.

(50) INSTALL FIBER ROLL CIRCLE AROUND AREA DRAINS AND CATCH BASINS PER DETAIL SHEET 5.

(51) INSTALL FIBER ROLLS AT LIMITS OF WORK PER DETAIL SHEET 5. IF FIBER ROLLS ARE PLACED ON A PAVED SURFACE, THEN INSTALL GRAVEL BAGS AT 5' ON CENTER TO HOLD FIBER ROLLS IN PLACE.

(52) INSTALL FIBER ROLLS AT BACK OF BROW DITCH. INSTALL GRAVEL BAGS AT 5' ON CENTER TO HOLD FIBER ROLLS IN PLACE.

(53) INSTALL FIBER ROLLS ON THE SLOPE AT THE APPROXIMATE INTERVALS SHOWN PER DETAIL SHEET 5.

1" = 30'
SCALE:
0 15 30 60 90
GRAPHICAL SCALE

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REGISTERED PROFESSIONAL ENGINEER — BRENT C. MOORE — No. 59121 Exp. 6-30-27 — CIVIL — STATE OF CALIFORNIA

SEE LANDSCAPE AND IRRIGATION PLANS FOR ALL LANDSCAPING AND IRRIGATION PER PDS2024-LP-24-____.

SEE SHEETS 8-11 FOR GRADING PLANS

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

ALL EXISTING IMPROVEMENTS, LANDSCAPING & IRRIGATION WITHIN THE LIMITS OF WORK TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE UNLESS NOTED OTHERWISE. SEE LANDSCAPING & IRRIGATION PLANS FOR ADDITIONAL INFORMATION.

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
13		

EROSION CONTROL PLAN FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

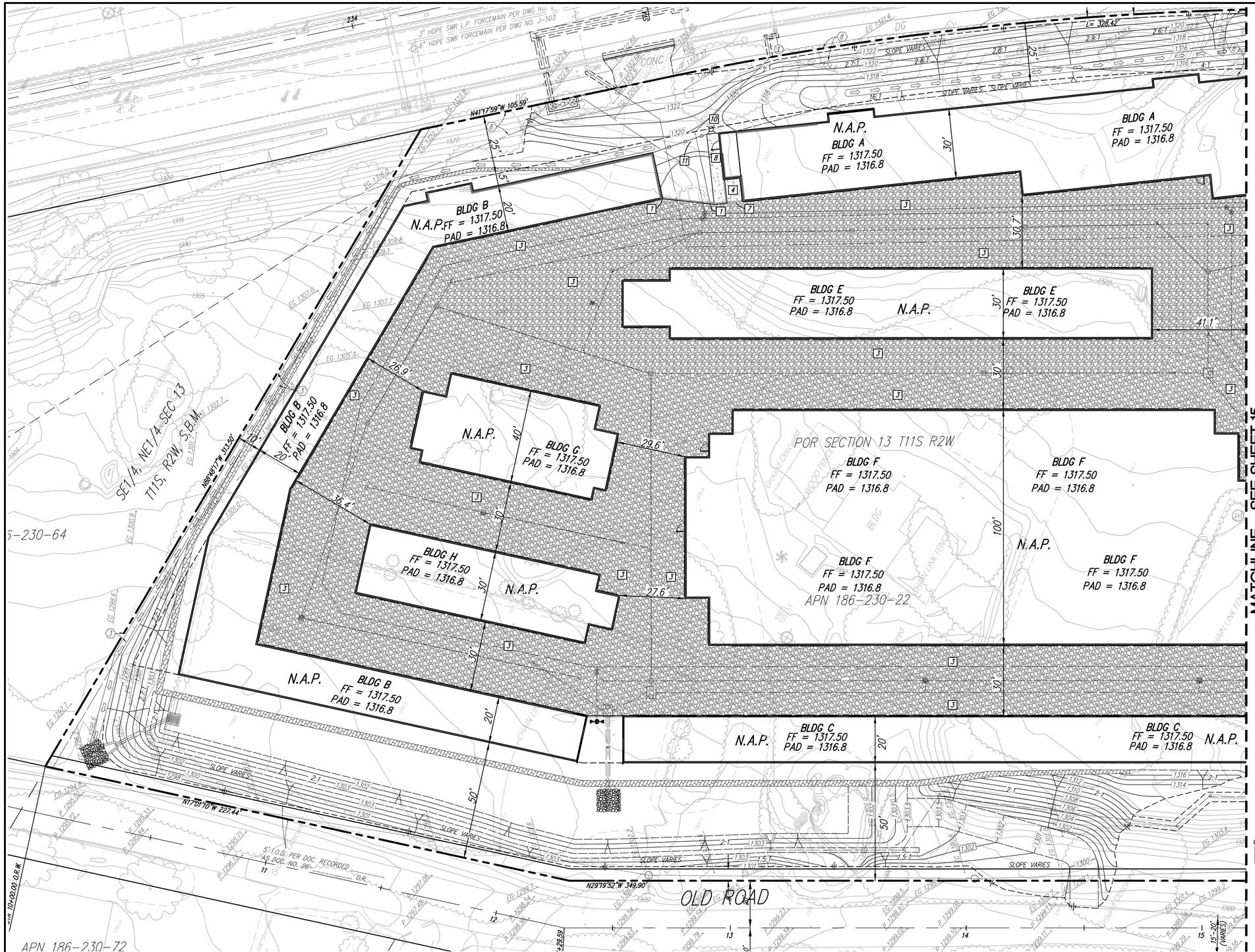
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-3240P13.dwg 01-13-26



LEGEND:

1	6" CURB (PVT)	SDRSD G-1	
3	GRAVELPAVE2 (PVT)	SEE DETAILS SHEET 6	
4	6" PCC PAVEMENT OVER NATIVE (PVT)	(NOT FOR CONSTRUCTION*)	
7	0" CURB (PVT)	SDRSD G-1	
8	CONCRETE SIDEWALK (4" ON NATIVE)*(PVT)	SEE LANDSCAPE PLANS FOR DETAILS	
10	PARKING LOT LIGHT POLES (PVT)	SEE ARCHITECTURAL DRAWINGS	
11	SECURITY FENCE AND GATE	SEE ARCHITECTURAL DRAWINGS	

PROPERTY BOUNDARY
EXISTING RIGHT-OF-WAY
EXISTING EASEMENT

(*) THE ABOVE MENTIONED SECTION IS FOR PRELIMINARY DESIGN AND SHALL BE CONFIRMED BY THE GEOTECHNICAL ENGINEER OF RECORD BY FINAL TESTING AND OBSERVATION AND VERIFIED BY THE COUNTY OF SAN DIEGO MATERIALS LAB AFTER PROVIDED TEST RESULTS.

EXISTING CONTOUR
EXISTING CONCRETE
EXISTING TREES
EXISTING GROUND ELEVATION
EXISTING CANAPY
EXISTING BIKE LANE STRIPING
EXISTING AC ROAD
EXISTING ELECTRICAL FACILITIES
EXISTING GAS FACILITIES
EXISTING LIGHTS
EXISTING STORM DRAIN
EXISTING RETAINING WALL
EXISTING ROLLED AC BERM
EXISTING HANDICAP STALL
EXISTING ROCK OUTCROPPING
EXISTING BUILDING
EXISTING CONC DITCH
EXISTING WATER FACILITIES
EXISTING SIGN
EXISTING MAIL BOX
EXISTING CURB AND GUTTER
EXISTING FENCE/GATE

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

SEE SHEETS 8-12 FOR ONSITE GRADING, STORM DRAIN FACILITY ELEVATIONS AND PROFILES AND CONSTRUCTION NOTES.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

1" = 20'
SCALE:
0 10 20 40 60
GRAPHICAL SCALE

FOR REFERENCE ONLY

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER — BRENT C. MOORE — No. 59121 Exp. 6-30-27 — CIVIL — STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

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PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
14		

HORIZONTAL CONTROL PLAN FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

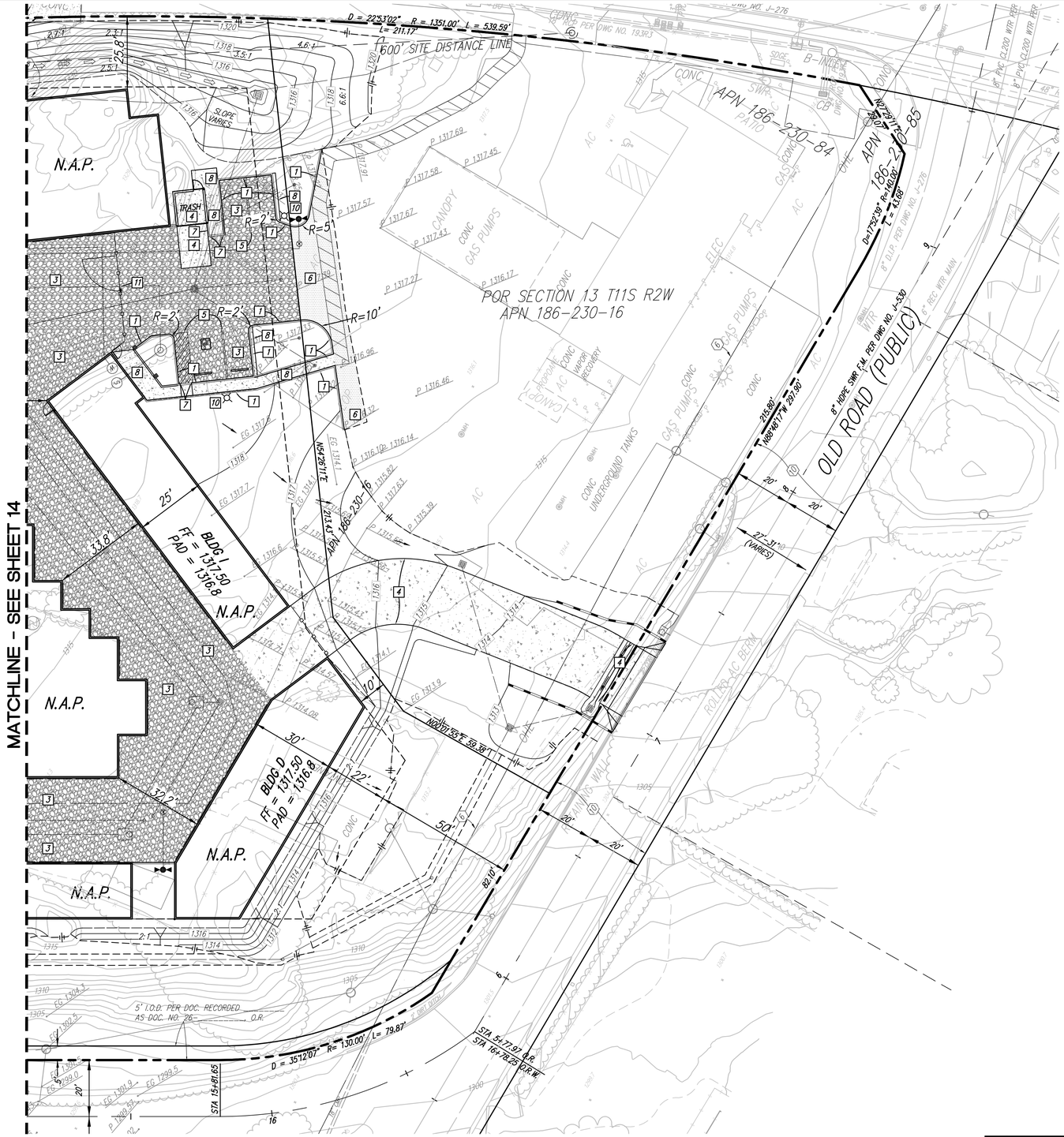
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP14.dwg 01-13-26



SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

SEE SHEETS 8-12 FOR ONSITE GRADING, STORM DRAIN FACILITY ELEVATIONS AND PROFILES AND CONSTRUCTION NOTES.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

LEGEND:

1	6" CURB (PVT)	SDRSD G-1	
3	GRAVELPAVE2 (PVT)	SEE DETAILS SHEET 6	
4	6" PCC PAVEMENT OVER NATIVE (PVT)	(NOT FOR CONSTRUCTION*)	
5	PARKING STRIPE/HANDICAP (PVT)	SEE ARCH PLANS FOR DETAILS	
6	4" AC OVER 4.5" CLASS II BASE (PVT)	(NOT FOR CONSTRUCTION*)	
7	0" CURB (PVT)	SDRSD G-1	
8	CONCRETE SIDEWALK (4" ON NATIVE)*(PVT)	SEE LANDSCAPE PLANS FOR DETAILS	
10	PARKING LOT LIGHT POLES (PVT)	SEE ARCHITECTURAL DRAWINGS	
11	SECURITY FENCE AND GATE	SEE ARCHITECTURAL DRAWINGS	

PROPERTY BOUNDARY

EXISTING RIGHT-OF-WAY

EXISTING EASEMENT

(*) THE ABOVE MENTIONED SECTION IS FOR PRELIMINARY DESIGN AND SHALL BE CONFIRMED BY THE GEOTECHNICAL ENGINEER OF RECORD BY FINAL TESTING AND OBSERVATION AND VERIFIED BY THE COUNTY OF SAN DIEGO MATERIALS LAB AFTER PROVIDED TEST RESULTS.

EXISTING CONTOUR

EXISTING CONCRETE

EXISTING TREES

EXISTING GROUND ELEVATION

EXISTING CANAPY

EXISTING BIKE LANE STRIPING

EXISTING AC ROAD

EXISTING ELECTRICAL FACILITIES

EXISTING GAS FACILITIES

EXISTING LIGHTS

EXISTING STORM DRAIN

EXISTING RETAINING WALL

EXISTING ROLLED AC BERM

EXISTING HANDICAP STALL

EXISTING ROCK OUTCROPPING

EXISTING BUILDING

EXISTING CONC DITCH

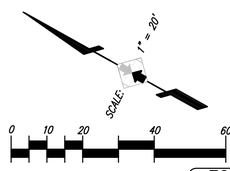
EXISTING WATER FACILITIES

EXISTING SIGN

EXISTING MAIL BOX

EXISTING CURB AND GUTTER

EXISTING FENCE/GATE



FOR REFERENCE ONLY

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PH: (951) 587-2020
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REGISTERED PROFESSIONAL ENGINEER BRENT C. MOORE No. 59121 Exp. 6-30-27 CIVIL STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME

R.C.E. _____

EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"

LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD

RECORD FROM: COUNTY OF SAN DIEGO

ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
15		

HORIZONTAL CONTROL PLAN FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER

BY: _____

DATE: _____

ENGINEER OF WORK

DATE:

BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505

GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING

PHONE NO.(951) 587-2020

22-324GP15.dwg 01-13-26

CONSTRUCTION NOTES

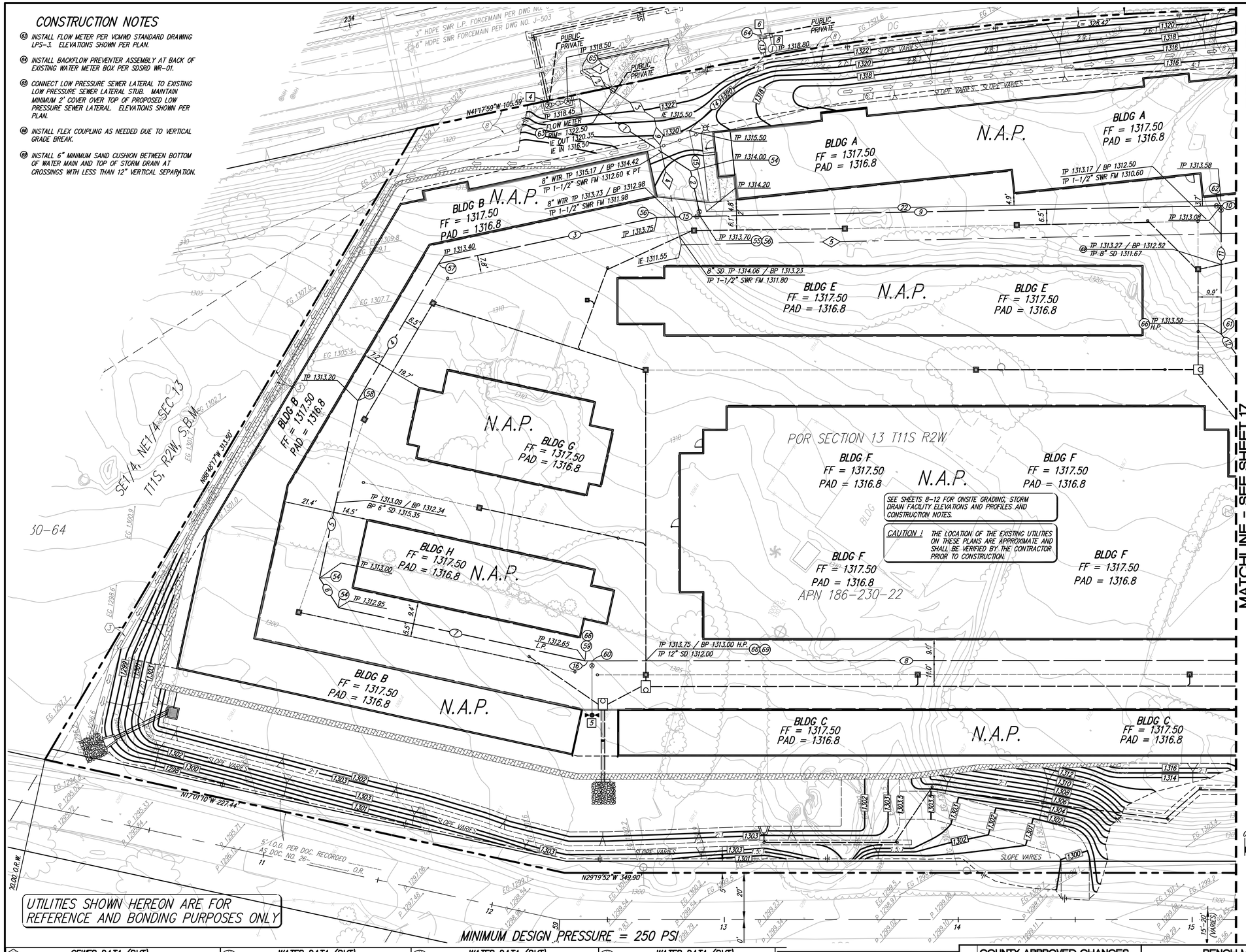
(63) INSTALL FLOW METER PER VCMWD STANDARD DRAWING LPS-3. ELEVATIONS SHOWN PER PLAN.

(64) INSTALL BACKFLOW PREVENTER ASSEMBLY AT BACK OF EXISTING WATER METER BOX PER SDSRD WR-01.

(65) CONNECT LOW PRESSURE SEWER LATERAL TO EXISTING LOW PRESSURE SEWER LATERAL STUB. MAINTAIN MINIMUM 2' COVER OVER TOP OF PROPOSED LOW PRESSURE SEWER LATERAL. ELEVATIONS SHOWN PER PLAN.

(66) INSTALL FLEX COUPLING AS NEEDED DUE TO VERTICAL GRADE BREAK.

(69) INSTALL 6" MINIMUM SAND CUSHION BETWEEN BOTTOM OF WATER MAIN AND TOP OF STORM DRAIN AT CROSSINGS WITH LESS THAN 12" VERTICAL SEPARATION.



LEGEND:

PROPERTY LINE/ PROJECT BOUNDARY

1	4" FIRE SERVICE LINE (PVT)	
4	8" BACKFLOW R.P.B.P.D. W/ TATTLE-TAIL METER W/ FDC MOUNTED TO SYSTEM SIDE OF THE R.P.B.P.D.	VCMWD W-8
5	6" FIRE HYDRANT ASSEMBLY	VCMWD W-12
6	1" DOMESTIC BACKFLOW PREVENTER (PVT).	SDRSD WR-01
7	1" IRRIGATION BACKFLOW PREVENTER (PVT).	SDRSD WR-01
8	1" IRRIGATION SERVICE LINE (PVT)	VCMWD W-3

EXISTING CONTOUR
EXISTING CONCRETE
EXISTING TREES
EXISTING GROUND ELEVATION
EXISTING CANAPY
EXISTING BIKE LANE STRIPING
EXISTING AC ROAD
EXISTING ELECTRICAL FACILITIES
EXISTING GAS FACILITIES
EXISTING LIGHTS
EXISTING STORM DRAIN
EXISTING RETAINING WALL
EXISTING ROLLED AC BERM
EXISTING HANDICAP STALL
EXISTING ROCK OUTCROPPING
EXISTING BUILDING
EXISTING CONC DITCH
EXISTING WATER FACILITIES
EXISTING SIGN
EXISTING MAIL BOX
EXISTING CURB AND GUTTER
EXISTING FENCE/GATE

CONSTRUCTION NOTES

(54) INSTALL 8" 45° HORIZONTAL BEND WITH RESTRAINED JOINTS (L = 15').

(55) INSTALL 8"X8"X8" TEE WITH 2-8" GATE VALVES WITH RESTRAINED JOINTS. JOINT LENGTH = 5' IN BOTH DIRECTIONS ALONG THE RUN AND 89° ALONG THE BRANCH.

(56) INSTALL 8" 11.25° HORIZONTAL BEND WITH RESTRAINED JOINTS (L = 4').

(57) INSTALL 8" 45° HORIZONTAL BEND WITH FLEX COUPLING (⅄ = 47.48°) WITH RESTRAINED JOINTS (L = 15').

(58) INSTALL 8" 22.5° HORIZONTAL BEND WITH FLEX COUPLING (⅄ = 18.35°) WITH RESTRAINED JOINTS (L = 7').

(59) INSTALL 8" 11.25° HORIZONTAL BEND WITH FLEX COUPLING (⅄ = 12.23°) WITH RESTRAINED JOINTS (L = 4').

(60) INSTALL 8"X8"X6" TEE WITH 1-6" GATE VALVE WITH RESTRAINED JOINTS. JOINT LENGTH = 3' IN BOTH DIRECTIONS ALONG THE RUN AND 55° ALONG THE BRANCH.

(61) INSTALL 22.5° AND 11.25° HORIZONTAL BENDS WITH FLEX COUPLING(S) (⅄ = 36.69°) WITH RESTRAINED JOINTS (L = 8').

(62) INSTALL 8"X8"X8" TEE WITH 8"X6" REDUCER WITH RESTRAINED JOINTS. JOINT LENGTH = 5' IN BOTH DIRECTIONS ALONG THE RUN AND 89° ALONG THE BRANCH.

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

SCALE: 1" = 20'

0 10 20 40 60

GRAPHICAL SCALE

Alidade ENGINEERING
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PH: (951) 587-2020
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FOR REFERENCE ONLY

REGISTERED PROFESSIONAL ENGINEER BRENT C. MOORE No. 59121 Exp. 6-30-27 CIVIL STATE OF CALIFORNIA

UTILITIES SHOWN HEREON ARE FOR REFERENCE AND BONDING PURPOSES ONLY

SEWER DATA (PVT)

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N 48°42'01" E		1.62'	1-1/2" I.P.S. PE 4170 DR-17
2	N 03°42'01" E		15.13'	1-1/2" I.P.S. PE 4170 DR-17
3	N 03°42'01" E		21.29'	1-1/2" I.P.S. PE 4170 DR-17
4	N 48°40'23" E		40.62'	1-1/2" I.P.S. PE 4170 DR-17
5	N 30°31'04" W		236.75'	1-1/2" I.P.S. PE 4170 DR-17
9	N 48°40'23" E		14.86'	1-1/2" I.P.S. PE 4170 DR-17

WATER DATA (PVT)

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N 03°42'01" E		66.73'	8" PVC C-900 CL305
2	N 48°40'23" E		24.97'	8" PVC C-900 CL305
3	N 41°19'37" W		95.45'	8" PVC C-900 CL305
4	N 88°48'17" W		68.04'	8" PVC C-900 CL305
5	N 72°50'54" E		77.71'	8" PVC C-900 CL305
6	N 27°50'54" E		15.00'	8" PVC C-900 CL305

WATER DATA (PVT)

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
7	N 17°09'06" W		107.80'	8" PVC C-900 CL305
8	N 29°22'38" W		275.37'	8" PVC C-900 CL305
9	N 30°31'04" W		241.20'	8" PVC C-900 CL305
10	N 30°31'04" W		6.41'	6" PVC C-900 CL305
11	N 60°37'22" E		54.96'	8" PVC C-900 CL305
12	N 23°56'02" E		10.64'	8" PVC C-900 CL305

WATER DATA (PVT)

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
13	N 50°38'19" E		8.63'	1" PVC SCH 80
14	N 74°06'41" W		44.97'	1" PVC SCH 80
15	N 48°40'23" E		35.36'	1" PVC SCH 80
16	N 29°22'38" W		3.00'	8" PVC CL305
22	N 30°31'04" W		226.48'	1" PVC SCH 80

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
16		

PRIVATE UTILITY PLAN FOR:
SOUTH VILLAGE STORAGE
CALIFORNIA COORDINATE INDEX 380-1750

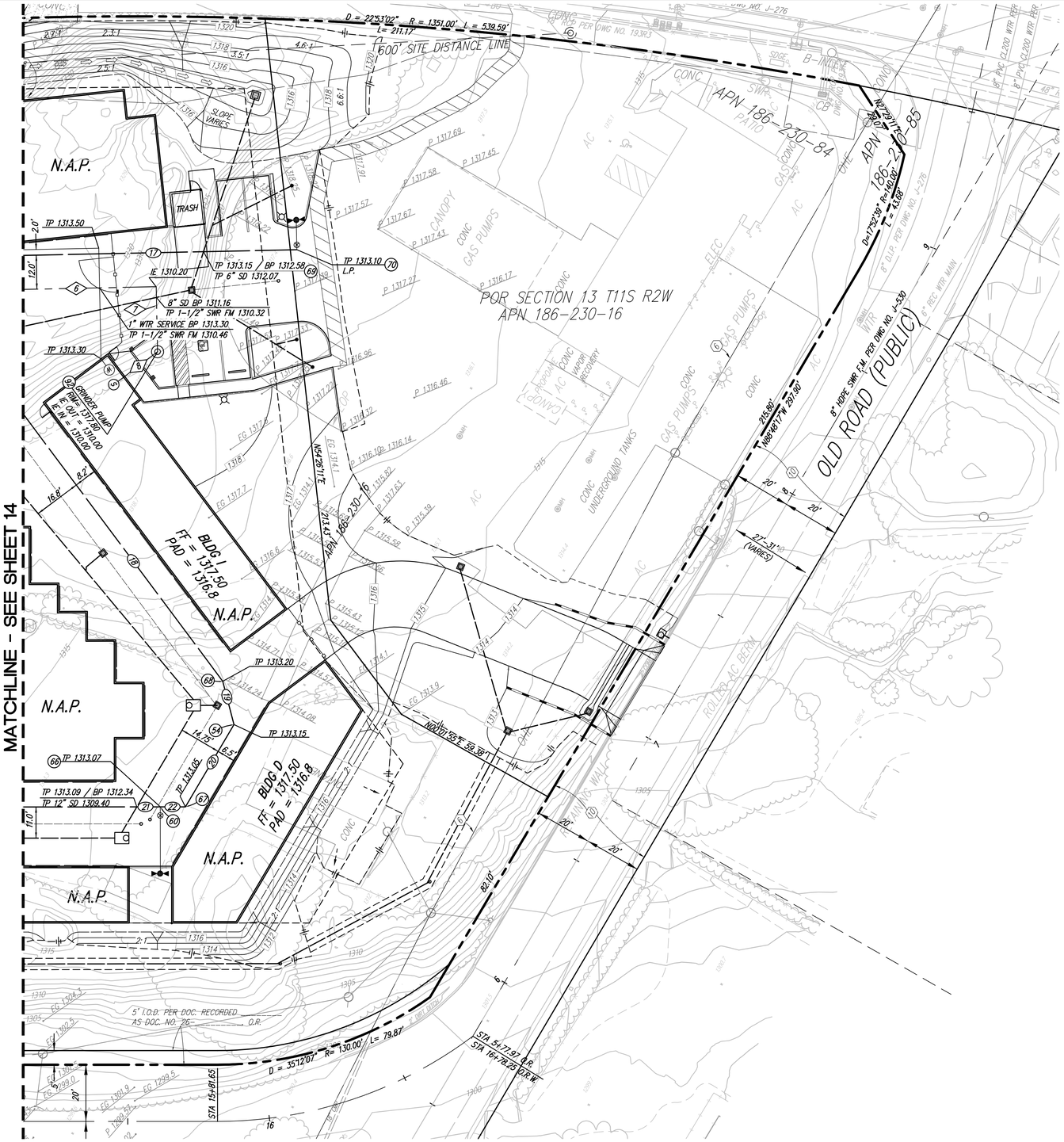
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP16.dwg 01-13-26



WATER DATA (PVT)				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
17	N 30°31'04" W		90.89'	6" PVC C-900 CL305
18	N 23°56'02" E		108.19'	8" PVC C-900 CL305
19	N 46°12'16" E		15.77'	8" PVC C-900 CL305
20	N 88°47'44" W		33.68'	8" PVC C-900 CL305
21	N 29°22'38" W		42.68'	8" PVC C-900 CL305
22	N 29°22'38" W		8.87'	8" PVC C-900 CL305

MINIMUM DESIGN PRESSURE = 250 PSI

SEWER DATA (PVT)				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
6	N 30°31'04" W		41.77'	1-1/2" I.P.S. PE 4170 DR-17
7	N 59°28'56" E		22.93'	1-1/2" I.P.S. PE 4170 DR-17
8	N 66°14'38" W		14.51'	4" PVC SDR-35

LEGEND:

PROPERTY LINE/ PROJECT BOUNDARY
1 4" FIRE SERVICE LINE (PVT)
5 6" FIRE HYDRANT ASSEMBLY VCMWD W-12
EXISTING CONTOUR
EXISTING CONCRETE
EXISTING TREES
EXISTING GROUND ELEVATION
EXISTING CANAPY
EXISTING BIKE LANE STRIPING
EXISTING AC ROAD
EXISTING ELECTRICAL FACILITIES
EXISTING GAS FACILITIES
EXISTING LIGHTS
EXISTING STORM DRAIN
EXISTING RETAINING WALL
EXISTING ROLLED AC BERM
EXISTING HANDICAP STALL
EXISTING ROCK OUTCROPPING
EXISTING BUILDING
EXISTING CONC DITCH
EXISTING WATER FACILITIES
EXISTING SIGN
EXISTING MAIL BOX
EXISTING CURB AND GUTTER
EXISTING FENCE/GATE

CONSTRUCTION NOTES

(54) INSTALL 8" 45° HORIZONTAL BEND WITH RESTRAINED JOINTS (L = 15').

(60) INSTALL 8"X8"X6" TEE WITH 1-6" GATE VALVE WITH RESTRAINED JOINTS. JOINT LENGTH = 3' IN BOTH DIRECTIONS ALONG THE RUN AND 55" ALONG THE BRANCH.

(62) INSTALL 8"X8"X8" TEE WITH 8"X6" REDUCER WITH RESTRAINED JOINTS. JOINT LENGTH = 5' IN BOTH DIRECTIONS ALONG THE RUN AND 89" ALONG THE BRANCH.

(66) INSTALL FLEX COUPLING AS NEEDED DUE TO VERTICAL GRADE BREAK.

(67) INSTALL 45° AND 11.25° HORIZONTAL BENDS WITH FLEX COUPLING (< = 59.42°) WITH RESTRAINED JOINTS (L = 15').

(68) INSTALL 22.5° HORIZONTAL BEND WITH FLEX COUPLING (< = 22.25°) WITH RESTRAINED JOINTS (L = 7').

(69) INSTALL 6" MINIMUM SAND CUSHION BETWEEN BOTTOM OF WATER MAIN AND TOP OF STORM DRAIN AT CROSSINGS WITH LESS THAN 12" VERTICAL SEPARATION.)

(70) INSTALL 90° HORIZONTAL BEND WITH 1-6" GATE VALVE WITH RESTRAINED JOINTS (L = 26').

(92) INSTALL GRINDER PUMP PER VCMWD STANDARD DRAWING LPS-3. ELEVATIONS SHOWN PER PLAN.

SCALE: 1" = 20'
0 10 20 40 60
GRAPHICAL SCALE

FOR REFERENCE ONLY

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER BRENT C. MOORE No. 59121 Exp. 6-30-27 CIVIL STATE OF CALIFORNIA

SEE SHEET 2 FOR EASEMENT IDENTIFICATION NOTES.

CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY RIMS TO FINISHED GRADE EXCEPT WITHIN THE PROPOSED BIOFILTRATION BASINS OR UNLESS SHOWN OTHERWISE.

SEE SHEETS 8-12 FOR ONSITE GRADING, STORM DRAIN FACILITY ELEVATIONS AND PROFILES AND CONSTRUCTION NOTES.

CAUTION ! THE LOCATION OF THE EXISTING UTILITIES ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

UTILITIES SHOWN HEREON ARE FOR REFERENCE AND BONDING PURPOSES ONLY

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

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PRIVATE UTILITY PLAN FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

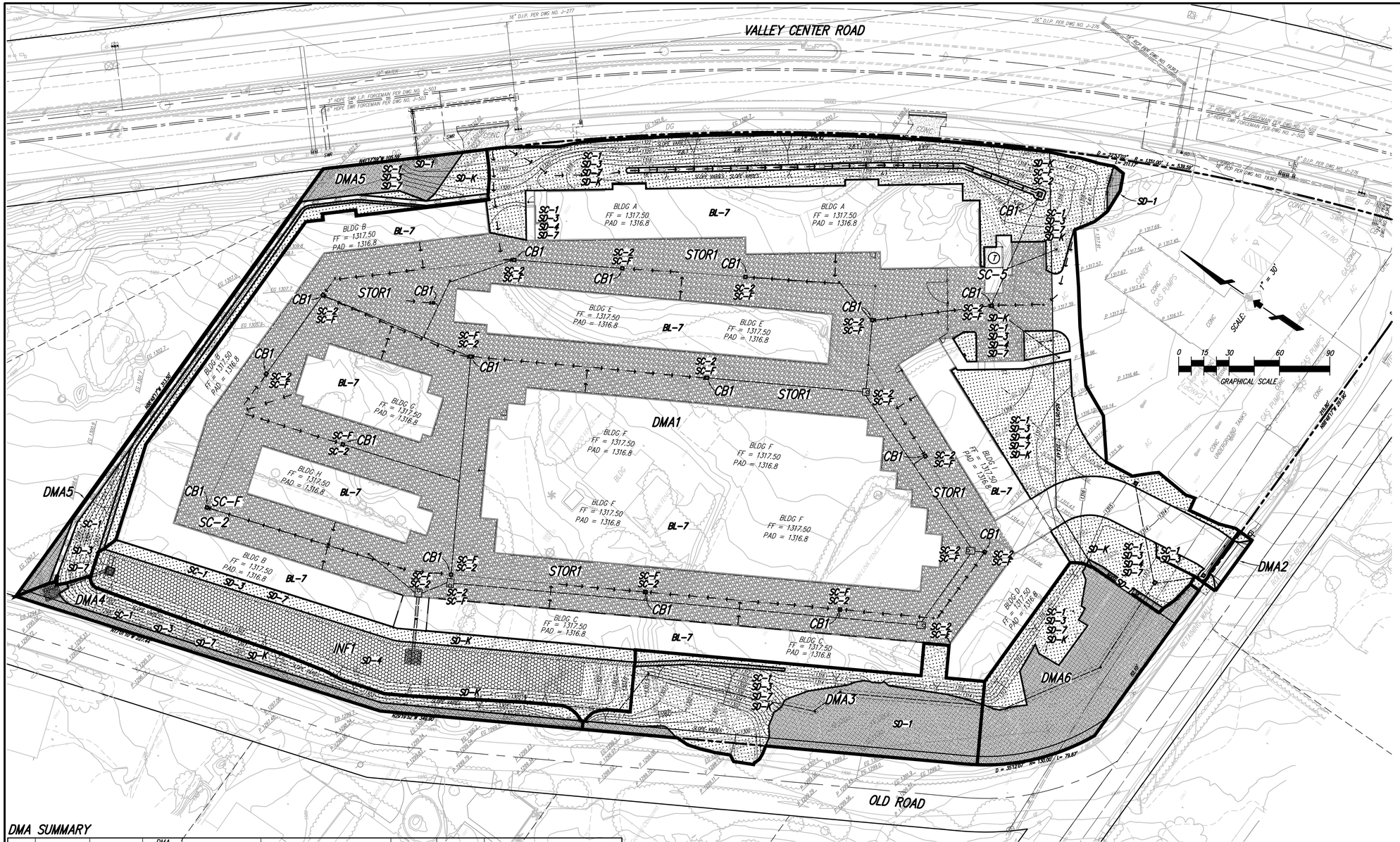
APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP17.dwg 01-13-26



LEGEND

DESCRIPTION	STANDARD SYMBOL
DRAINAGE MANAGEMENT AREA	
STORM DRAIN	
LANDSCAPE AREA DRAIN	
12" X 12" GRATED CATCH BASIN	
18" X 18" GRATED CATCH BASIN (FITTED WITH 7/16" FLOW CONTROL ORIFICES PER DETAIL SHEET 7 OF GRADING PLANS)	
24" X 24" GRATED CATCH BASIN	
36" X 36" GRATED CATCH BASIN	
TYPE 'A' OR 'B' CLEANOUT	C
DEVELOPED IMPERVIOUS AREA	
SUSTAINABLE LANDSCAPED AREA	
PROPOSED INFILTRATION BASIN	
EXISTING UNDISTURBED 'B' SOILS	
LINED GRAVEL PAVE	
DIRECTION OF FLOW	→ → → →
PROPOSED TRASH STORAGE AREA	(7)

SITE DESIGN BMPS

1. SD-2 CONSERVE NATURAL AREAS, SOILS AND VEGETATION: EXISTING ONSITE LANDSCAPING WILL BE PROTECTED IN PLACE TO MAXIMUM EXTENT POSSIBLE IN AREAS THAT ARE DESIGNATED TO BE UNDISTURBED.

2. SD-3 MINIMIZE IMPERVIOUS AREA: PARKING STALLS TO BE CONSTRUCTED TO THE MINIMUM WIDTHS NECESSARY AND STILL MAINTAIN PUBLIC SAFETY. MINIMIZE THE USE OF IMPERVIOUS SURFACES IN THE LANDSCAPE DESIGN.

3. SD-4 MINIMIZE SOIL COMPACTION: COMPACTION TO BE MINIMIZED TO MAXIMUM EXTENT POSSIBLE IN THE PROPOSED LANDSCAPE AREAS.

4. SD-7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES: LANDSCAPE DESIGN WILL INCLUDE NATIVE AND/OR DROUGHT TOLERANT SPECIES.

SOURCE CONTROL BMPS

1. SC-1 PREVENTION OF ILLICIT DISCHARGES INTO THE MS4: LANDSCAPE PLANS WILL INCLUDE EFFECTIVE IRRIGATION TO LIMIT OVER-IRRIGATION. IN ADDITION, THERE ARE NO AREAS ON SITE FOR VEHICLE WASHING.

2. SC-2 STORM DRAIN STENCILING OR SIGNAGE: CONCRETE CATCH BASINS AND CLEAN OUT STRUCTURES WILL BE STENCILED OR HAVE A PLACARD APPLIED TO PROHIBIT ILLEGAL DUMPING.

3. SC-5 PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL: TRASH STORAGE AREAS WILL BE COVERED TO PROTECT FROM RAINFALL AND WALLED TO PREVENT THE OFFSITE TRANSPORT OF TRASH.

4. BL-4 (SD-K) LANDSCAPE AREAS: SUSTAINABLE LANDSCAPING USES NATIVE AND DROUGHT TOLERANT PLANT SPECIES TO LIMIT THE TOTAL WATER DEMAND OF LANDSCAPED AREAS AND CREATE A LIVING SPONGE TO SOAK UP RAINFALL. SELECT DROUGHT TOLERANT AND NATIVE PLANTS FOR SAN DIEGO COUNTY. CREATE HEALTHY SOILS TO ENCOURAGE MOISTURE RETENTION. DESIGN WATER EFFICIENT IRRIGATION SYSTEMS THAT REDUCE THE LIKELIHOOD OF IRRIGATION RUNOFF.

4. BL-7 MANAGEMENT OF NON-STORM WATER DISCHARGES: CATCH BASINS AND CLEAN OUT STRUCTURES WILL BE STENCILED OR HAVE A PLACARD APPLIED TO PROHIBIT ILLEGAL DUMPING (SC-F). RUNOFF FROM ALL DRAIN LINES FROM AIR CONDITIONING UNITS WILL BE DIRECTED TO THE ONSITE PRIVATE STORM DRAIN SYSTEM AND CONVEYED TO THE PROPOSED INFILTRATION BASIN. FIRE SPRINKLER TEST WATER SHALL BE DIRECTED TO THE ONSITE PRIVATE STORM DRAIN SYSTEM AND CONVEYED TO THE PROPOSED INFILTRATION BASIN.

BMP NOTES

1. THESE BMPS ARE MANDATORY TO BE INSTALLED AS SHOWN PER PLAN.
2. NO CHANGES TO THE PROPOSED BMPS ON THIS SHEET WITHOUT PRIOR APPROVAL FROM THE ENGINEERING DEPARTMENT.
3. NO SUBSTITUTIONS TO THE MATERIAL TYPES OR PLANTING TYPES WITHOUT PRIOR APPROVAL FROM THE LAND DEVELOPMENT ENGINEER.
4. NO OCCUPANCY WILL BE GRANTED UNTIL THE COUNTY INSPECTION STAFF HAS INSPECTED THIS PROJECT FOR APPROPRIATE BMP CONSTRUCTION.

GENERAL INFORMATION

RECEIVING WATER – SAN LUIS REY RIVER
POLLUTANTS OF CONCERN – BENTHIC COMMUNITY EFFECTS, BIFENTHRIN, CHLORIDE, INDICATOR BACTERIA, NITROGEN, OXYGEN DISSOLVED, PHOSPHORUS, PYRETHROIDS, TOTAL DISSOLVED SOLIDS AND TOXICITY.

RECEIVING WATER – PACIFIC OCEAN SHORELINE
POLLUTANTS OF CONCERN – INDICATOR BACTERIA

DMA SUMMARY

DMA NAME	DMA SURFACE TYPE	DMA AREA (FT^2)	DMA RUNOFF FACTOR	DMA TYPE	PROPOSED STRUCTURAL BMP TYPE	STRUCTURAL BMP ID	IMP SIZING FACTOR
DMA1	LANDSCAPING	25,248.6	0.10	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	NATURAL 'B'	320.0	0.14	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	IMPERVIOUS	77,312.6	0.90	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	LINED GRAVEL	57,642.7	0.90	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	AGGREGATE	5,576.0	0.30	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
DMA2	IMPERVIOUS	250.0	0.9	DE MINIMIS AREA ULTIMATELY DRAINS TO OLD ROAD.			
	LANDSCAPING	70.0	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
DMA3	LANDSCAPING	6,255.1	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
	IMPERVIOUS	193.6	0.9	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD (LESS THAN 5% OF SELF MITIGATING AREA).			
	NATURAL 'B'	4709.5	0.14				
DMA4	LANDSCAPING	2,994.3	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
	NATURAL 'B'	1,823.5	0.14				
DMA5	LANDSCAPING	3,150.7	0.1	SELF MITIGATING DRAINS TO PROPOSED BROW DITCH THAT OUTLETS TO OLD ROAD.			
	IMPERVIOUS	671.1	0.9	SELF MITIGATING DRAINS TO PROPOSED BROW DITCH THAT OUTLETS TO OLD ROAD (RETAINING WALL THAT EXCEEDS 5% OF SELF MITIGATING AREA). DUE TO SITE CONSTRAINTS, THE RUNOFF FROM THE RETAINING WALL CANNOT BE DIRECTED TO A TREATMENT CONTROL BMP. AS NOTED IN THE CALCULATION THIS SHEET, INF1 IS OVERSIZED TO ALLOW FOR THIS AREA TO BE LEFT UNTREATED.			
	NATURAL 'B'	2,203.1	0.14				
	IMPERVIOUS	1,115.3	0.9	BROW DITCH (STORM WATER CONVEYANCE SYSTEM)			
DMA6	LANDSCAPING	2,070.0	0.1	SELF MITIGATING ULTIMATELY DRAINS TO AN EXISTING CULVERT WHICH CROSSES OLD ROAD.			
	NATURAL 'B'	6,642.0	0.14				

NOTE: SEE SHEETS 5, 6 AND 7 FOR DETAILS OF INFILTRATION BASIN AND STORM DRAIN STRUCTURES

BMP TABLE

BMP ID #	BMP TYPE	SYMBOL	QUANTITY	PLAN NO.	SHEET NO.	INSPECTION FREQUENCY	MAINTENANCE FREQUENCY
INF1	INF-1		5,576 S.F.	PDS2024-LDGRMJ-30505	6, 10, 27	MONTHLY*	AS NEEDED
CB1	PRE-TREATMENT		18 EA	PDS2024-LDGRMJ-30505	7, 8, 9, 10, 11	SEMI-ANNUALLY	AS NEEDED
STOR1	INF-3		57,642.7 S.F.	PDS2024-LDGRMJ-30505	6, 7, 27	MONTHLY*	AS NEEDED

*INSPECT MONTHLY (AT A MINIMUM) AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT.

PROJECT SITE INFO

1. UNDERLYING HYDROLOGIC SOILS ARE TYPE 'B'.
2. APPROXIMATE GROUND WATER DEPTH IS OVER 25 FEET BELOW EXISTING GROUND.
3. THERE ARE NO CRITICAL COARSE SEDIMENT YIELD AREAS ON SITE.
4. THERE ARE NO EXISTING HYDROLOGIC FEATURES ON SITE.

DMA1	DMA AREA (FT^2)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X RUNOFF FACTOR	SOIL TYPE	IMP NAME
	134,955.3	IMPERVIOUS	0.9	121,459.8	B	INF1
	25,248.6	LANDSCAPING	0.1	2,524.9		
	320.0	NATURAL 'B'	0.14	44.8	IMP SIZING FACTOR	MINIMUM AREA OR VOLUME
	5,576.0	AGGREGATE	0.3	1,672.8		PROPOSED AREA OR VOLUME (FT^2)
			TOTAL	125,702.3	0.03	3,771.1	5,576	IMP AREA

BASIN INF1 OVERSIZED FOR MULTIPLE REASONS INCLUDING ACCOUNTING FOR PORTION OF PROPOSED RETAINING WALL THAT CANNOT BE DIRECTED TO A TREATMENT CONTROL BMP.

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No.59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

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DMA EXHIBIT FOR:

SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP27.dwg 01-20-26

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: Drainage Study for Valley Center Storage, County of San Diego, California, APN: 186-230-22

    Prepared By: REC Consultants

    Date: 01/16/2026

  - 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.

DRAINAGE STUDY

For

VALLEY CENTER STORAGE
COUNTY OF SAN DIEGO, CALIFORNIA
APN: 186-230-22

Prepared for:

Alidade Engineering
43950 Margarita Rd, Suite C
Temecula, CA 92592
(951) 587-2020

Prepared by:

Luis A. Parra Rosales, PhD, PE, CFM
REC Consultants, Inc.
2970 5th Avenue Suite 340
San Diego, CA 92103
Telephone: 951-693-2400
luis@rec-consultants,com

Report Prepared:

January 16th, 2026

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(Addition of Hydrographs) **19**

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EXECUTIVE SUMMARY

Introduction

The purpose of this report is to demonstrate that the proposed gravel parking lot acting as a basin plus the downstream infiltration basin to be built on the Valley Center Storage project will reduce the peak flows from the 100-year storm event when compared to existing conditions.

For Drainage analysis, three (3) points of compliance (POC) have been designated within the project site for hydrologic analysis purposes. However, only POC-1 will be analyzed in detail this report because in post-developed conditions, the entire pre-development areas draining to POC-2 (0.18 ac) and POC-3 (0.83 ac) will be significantly reduced in post-development conditions as 100% of POC-1 area (0.18 ac) and 76% of POC-3 area (0.63 ac) will be routed to POC-1, so that (a) no area drains to POC-2 in post-development conditions, and (b) a reduced area without any impervious surface (0.20 ac) will drain to POC-3.

It is important to emphasize that the project site lies outside any FEMA 100-year floodplain zone. Therefore, no Letters of Map Revision will be required.

Per County of San Diego drainage criteria, the Modified Rational Method should be used to determine peak design flowrates when the contributing drainage area is less than 1.0 square mile. Since the total watershed area discharging from the site is less than 1.0 square mile, peak flows will be calculated using Rational Method (no need to use AES model as the time of concentration in post-development conditions is less than 5 minutes for the areas draining to the gravel layer acting as detention basin and also for the entire area draining to the infiltration basin).

Methodology used for the computation of design rainfall events, runoff coefficients, and rainfall intensity values are consistent with criteria set forth in the “County of San Diego Hydrology Manual” (CSD-HM). A more detailed explanation of methodology used for this analysis is listed in Appendix 3 of this report. The basic assumptions for peak flow calculations can be summarized as follows:

- Pre-development time of concentration is associated with an initial area 100% pervious, plus a travel time defined by Kirpich equation (section 3.1.4.2(a) of the CSD-HM). This increases Tc in pre-development conditions and reduces intensity, minimizing pre-development peak flow (conservative assumption, see calculations in Appendix 5)
- Post-development time of concentration is tied to a highly impervious initial sub-area and a high velocity in the pipes flowing to the infiltration basin, so conservatively the Tc is as small as possible (5 min). This increases the intensity and the unrouted peak flow (see calculations in Appendix 6).

Pre and post-developed condition peak flows were calculated using CSD-HM formulas. The corresponding post-development hydrographs were generated using the Rick RatHydro program by Rick Engineering based on the contributing area, the C coefficient, the peak flow, and the time interval associated with the time of concentration (a 5-minute time interval was used for all hydrographs, maximizing the peak flow). Hydraulic Modified-Puls detention basin routing of the Rat-Hydro hydrographs was performed using the Army Corps of Engineers HEC-HMS software.

The six-hour, 100-year storm depth P6 has been obtained from NOAA website at the coordinates of the project. (See Appendix 2).

Hydrologic Soil Group (HSG) information has been obtained from USDA web site at the project area (Appendix 2). The project site contains type B soil. Runoff Index values will be determined with this information in conjunction with the methodology presented in the CSD-HM.

Project Description

The proposed Valley Center Storage project is a commercial project that will be constructed in Valley Center, California. The project includes the construction of commercial storage buildings, roads (mostly gravel), associated landscaping, and an infiltration basin to mitigate peak runoff.

The Valley Center Storage project site is located east of Old Road and west of Valley Center Road in Valley Center, California.

Pre-Development Conditions

Under pre-development conditions, the Valley Center Storage project site is partially developed containing 2 existing building and some impervious driveways and parking lots which is the extent of the impervious area (about 50% of the site). The other half of the site is pervious including sparse vegetation, landscape, and some gravel roads/parking areas. In pre-developed conditions, there are three (3) POCs. However in this report, only (1) POC, POC-1, will be analyzed because the entire area (0.179 ac) draining to POC-2 in pre-developed conditions will be routed to POC-1 in post-developed conditions and the area draining to POC-3 (0.83 acres with considerable impervious percentage) will reduce to 0.20 acres with no impervious area in post-development conditions.

Table 1– SUMMARY OF EXISTING CONDITIONS FLOWS

Discharge Location	Drainage Area (Ac)	Weighted Runoff Coefficient (C)	Time of Concentr. (min)	100-Year Peak Flow (cfs)
100-101	0.06	0.25	7.71(1)	0.10
101-102	1.02	0.49	9.31(2)	3.01
102-1000	2.20	0.54	11.69(2)	6.19
POC-1	**3.28**	**0.519**	**11.69(2)**	**8.87**
POC-2	**0.18**	**0.25**	**(not needed)**	**> post-dev.**
POC-3	**0.86**	**0.72**	**(not needed)**	**> post-dev.(3)**

Notes: (1): Initial time of concentration from Fig. 3-3 of CSD-HM (formula in Fig. 3-3)
(2): Addition of Kirpich travel time (per 3.1.4.1B(b) of CSD-HM, conservative approach) to (1)
(3): Even if Tc = 11.69 min, Q3-Pre would be 3.23 cfs, larger than Q3-Post.

Post-Development Conditions

The post-development improvements include commercial buildings, gravel driveways, and associated landscaping. The site is split into the following parts: first DMA-1A composed of areas draining to the proposed gravel pavement that will act as a detention basin. The discharge of the gravel pavement will get into the infiltration basin located in DMA-1Ba where it will confluence with DMA-1Bb (both areas modeled as DMA-1B for hydrograph determination purposes). From there, the infiltration basin discharge (BMP-1) will join the hydrograph by-passing the BMP (slopes) to generate a post-dev. peak flow.

For calculation purposes, a conservative approach will be used to model the gravel layer: it will be considered similar to an impervious area because there will be placed above an impervious liner; the retention capacity of the gravel will be neglected (conservative approach) and only the detention capacity of the void spaces will be used (routing will be considered). As there are over 30 underground orifices draining the gravel layer with identical invert, the initial elevation will be the invert of the orifices. Regarding the infiltration basin, the initial elevation will correspond with the invert of the orifice in the gravel layer, and all volume underneath (that will infiltrate into the soil) will be considered full of water at the start of the storm event.

The bypass area consists of 12% of the POC-1 total area. This by-pass area is about 96% pervious. Runoff from the bypass area will overland flow to Old Road prior to discharging to POC-1 where it will confluence with the flows from the treated flow from the detention system. Please refer to the project WQMP for water quality analysis and results as water quality considerations are outside the scope of this report.

Table 2– SUMMARY OF DEVELOPED CONDITIONS FLOWS-UNMITIGATED

Discharge Location	Drainage[1] Area (Ac)	Weighted Runoff Coefficient (C)	Time of Concentr. (min)	100-Year Peak Flow (cfs)
100-101	0.25	0.87	5	1.96
101-102	3.13	0.75	5	21.16
103-104	0.19	0.25	5	0.43
120-121	0.11	0.48	5	0.48
121-122 (piped to BMP-1)	0.13	0.57	5	0.67
130-1000 (bypass)	0.53	0.28	5	1.32
POC-1 (to be routed)	**3.81**	**0.72**	**5[2]**	**24.69**
POC-1	**4.34**	**0.67**	**5**	**26.01**
POC-2	**0**	**-**	**-**	**0, < pre-dev.**
POC-3	**0.20**	**0.25**	**5**	**< pre-dev.[3]**

Notes: (1) Increase in total area due to area previously draining to POC-2 or POC-3 now routed to POC-1.
(2) Conservative approach: Tc = 5 min for all sub-areas (I = 9.01 in/hr).
(3) Even it tc = 5 min, Q3-post would be 0.45 cfs, less than Q3-Pre.

Prior to discharging from the project site, runoff will be captured in the gravel layer and released slowly into the infiltration basin which discharges runoff eventually to one (1) POC in accordance with standards set forth by the Regional Water Quality Control Board and the County of San Diego's BMP Design Manual (see Project's SWQMP).

The multi-purpose infiltration basin is located within the project site and is responsible for addressing water quality. Combined with the gravel pavement acting as a detention basin, it is responsible for hydromodification prevention, and flood control requirements for the project.

In developed conditions, the basin will have a surface depth and a riser spillway structure. Flows will infiltrate through the surface of the facility. The riser structure will act as a spillway such that peak flows can be safely discharged to the receiving storm drain system. Tables 3, 4 and 5 provide a summary of the BMPs and riser structure.

TABLE 3 – SUMMARY OF GRAVEL LAYER (AS STORAGE)

BMP	Gravel Pavement			Outlets			
	Area (sq-ft)	Depth (in)	n	Number - orifices	D (in)	Number - weirs	Perimeter (ft)
Up-DET	57,210	18	0.40	35	7/16	16 @ inv. 1.50	6

TABLE 4 – SUMMARY OF BMP INFILTRATION BASIN DIMENSIONS

BMP	Tributary Area (Ac)	DIMENSIONS			
		BMP Area(1) (ft^2)	Gravel thickness (ft)	Depth (ft) (gravel + surface)	Total Basin Surface Depth(2) (ft)
1	3.81	5,625	2.50	5.50	3.00

Notes: (1) Area at bottom of surface slope (6" of the slope covered by gravel).
(2) Total surface depth of BMP from top crest elevation to the surface of the basin

TABLE 5 – SUMMARY OF OUTLET DETAILS

BMP	Low Flow Orifice		Emergency Overflow	
	Number & D (in)	Invert (ft)	L(1) (ft)	Invert (ft)
1	4, 1" each	3.25	16	3.917 (3'11")

Notes:

The developed condition peak flow was calculated using the modified rational method. The corresponding hydrograph was generated using the RickRat-Hydro program by Rick Engineering. This hydrographs was then routed through the proposed on-site detention facilities in HEC-HMS (first, the gravel layer and then the infiltration basin, where the small hydrograph from DMA-1B is also added downstream of the gravel layer). HMS also combined the by-passed hydrograph (also obtained with RickRat-Hydro) with the runoff hydrograph exiting the infiltration basin, to determine the maximum peak flow released by the system. The HMS routing results are summarized in Table 6. HMS hydrograph combination (by-pass + routing) are included in Table 7.

Table 6– SUMMARY OF DETENTION BASINS ROUTING

Detention Basin	100-Year Peak Inflow (cfs)	100-Year Peak Outflow (cfs)	Peak Water Surface Elevation (ft)
Gravel Pavement	23.12	0.201	1.28 ft
Infiltration Basin (BMP-1)	1.744	0.195	3.92 ft

Rational method hydrograph, stage-storage, stage-discharge relationships and HEC-HMS model outputs are provided in Appendix 7 of this report.

Summary of Results and Conclusions

Table 7 summarizes developed and existing condition drainage areas and resultant 100-year peak flow rates at the POC from the Valley Center Storage project (mitigated peak includes small area not routed thru BMP).

Table 7– SUMMARY OF PEAK FLOWS

Discharge Location	Area (ac)			
	Existing	Unmitigated	Mitigated	Difference
POC-1	3.28	4.34	4.34	+1.06
Discharge Location	**100 year Peak Flow (cfs)**			
	Existing	**Unmitigated**	**Mitigated**	**Difference**
POC-1	8.87	26.01	1.38	-7.49

As shown in the above table, even with the conservative approach used for Tc (in both pre- and post-development conditions) the proposed Valley Center Storage project site will result in a significant net decrease of peak flow discharged from the POC. POC-1 has decreased by approximately 7.49 cfs to a value of 1.38 cfs, only 16% of the pre-development peak flow value. All developed runoffs will receive water quality treatment in accordance with the site specific SWQMP.

Certifying Statement:

The runoff peak flow from the proposed development will be significantly reduced when compared with the runoff peak flow from the existing conditions (1.38 cfs after development vs 8.87 cfs before development, for the 6 hour- 100-year storm analyzed). Velocity of runoff will also be reduced, because even if the geometry of the receiving channel is unknown and the velocity cannot be calculated with precision at the receiving system downstream, discharge velocity reduces when the peak flow significantly reduces. Therefore, there will not be adverse impacts to downstream landowners or facilities regarding flooding or erosion.

ADDITIONAL INFORMATION

Hydraulic Sizing

There is an unusual occurrence because of the gravel pavement incorporated in the project and the 35 small orifices draining its void space: even though the bottom of the gravel layer is impervious, it is at least 18" thick, and the amount of volume in the voids of the gravel is so large that the 6 hour – 100 year storm event associated with the contributing area of the gravel pavement does not reach the grated inlet invert elevation according to the HEC-HMS results. Therefore, *there is no peak flow to design the pipes under standard conditions* (recall that the peak will not reach the inlet from the top as water will permeate through the gravel).

Nonetheless, continuous simulation shows that ponding can indeed reach the top of the gravel because very large-duration storm events (or few consecutive storm events) might have enough volume to compensate for the long time it takes the gravel system to draw-down to level 0.00 (about 91 hours once is 100% full).

The largest peak flow observed leaving the gravel area was about 2.314 cfs in 57 years of continuous simulation results on 1/29/1980 at 5:00 am. The largest peak flow observed leaving the infiltration area was about 1.767 cfs on 12/6/1966 at 8:00 pm. However, those two peaks are hourly, with a Cunane's Return Period of 95.33 years, and the magnitude of the peak for shorter duration cannot be determined from an hourly continuous simulation analysis. The author of this report decided to use the following conservative approach, as there is no specific guidance or standard for this specific case when the design peak flow is not associated with a standard 6 hour-100 year storm but rather with an hourly peak coming from continuous simulation: first, extrapolate the peak to obtain the 100-year continuous simulation value (approximately 2.34 cfs and 1.79 cfs respectively). Second, let's assume that the hourly peak is proportional to the hourly 100-year rainfall NOAA intensity and then let's assume that the maximum peak is proportional to the NOAA 5-min-100-year rainfall intensity (this conservative assumption implies that the max. 5-min intensity has happened when the maximum 1-hr peak occurred). Therefore, the peak flows will be (a) $Q \approx 2.34$ cfs /NOAA 1-hr intensity x NOAA 5 min intensity = $2.34 \cdot 4.404/1.43 = 7.21$ cfs (out of gravel layer) and (b) $1.79 \cdot 4.404/1.43 = 5.51$ cfs (out of infiltration basin). The first value results in a peak flow of 0.45 cfs per grated inlet. Therefore, all pipes will be sized assuming each grated inlet overflows 0.45 cfs. The two (2) largest pipes (entering the infiltration pond and discharging out of the infiltration pond) will be designed with a peak flow of 7.21 cfs and 5.51 cfs respectively.

Hydraulic sizing guidance Table for pipe selection is shown in Appendix 4. For simplification purposes, all pipes will have a slope of 0.5% for pipe selection. Hydraulic sizing of 18" pipes is detailed in next section.

Confirmation of Pipe Sizes (only pipes 18" or larger)

Table 8 shows the results of Q (cfs), v (ft/s), HGL = h (depth of flow, ft), EGL = H (energy of flow, ft), for the 2 pipes with D ≥ 18 inches (1.5 ft). Manning's equation is applied. Detailed HGL for gradually varied profiles is not necessary given the excess of capacity for the pipes (the energy level EGL is less than 110% the diameter of the pipe, and the water depth is less than 67% of the diameter of the pipe, see Table 8).

Table 8 – DESIGN OF D = 18" PIPES

Pipe	D	s (ft/ft)	Q (cfs)	h (ft) = HGL	R_H (ft)	v (ft/s)	H (ft) = EGL
23	18"	0.0097	7.21	0.92 < 1.50	0.421	6.33	1.54 (< 1.1·D)
28	18"	0.0171	5.51	0.66 < 1.65	0.345	7.35	1.50 (< 1.1·D)

Infiltration Basin Freeboard

Regarding free board for the unmitigated Q_{100} discharging into the infiltration basin, the unmitigated 100-year peak flow that could enter the infiltration basin would be 26.01 cfs if the gravel basin did not exist. However, not only it exists, but is also tied to 35 small orifices that will cause the standard 6hr – 100yr storm event to start occurring into an empty gravel layer, whose volume exceeds the runoff volume of the 6hr-100yr storm (it is practically impossible that all 35 orifices tied to 35 different French Drains draining to 16 different inlet structures will be clogged at the same time). In this case, the maximum peak flow entering the infiltration basin from a 6hr-100yr storm will be the peak flow from the area not draining to the gravel area (1.58 cfs) plus the discharge of the gravel layer at the depth when 2/3 of the storm has occurred (this depth is 0.86' at t = 4:05 hr and the corresponding discharge is 0.16 cfs, per HEC-HMS results). Thus, the maximum peak flow would be 1.58 + 0.16 = 1.74 cfs. In this case, the infiltration basin water elevation would be about 4.02' and the freeboard about 1.48'.

Analyzing continuous simulation peak flow results, the largest hourly peak flow entering the infiltration basin is 2.567 cfs with a Cunnane's Return Period of 95.33 years while the second largest is 2.213 cfs with a Cunnane's Return Period of 35.75 years. The approximate 100-year hourly peak flow will be, using extrapolation, about 2.595 cfs. Assuming that the 60-min peak flow is proportional to the 1 hr – 100 yr NOAA intensity (1.43 in/hr), and assuming conservatively that the 5-min peak flow is proportional to the 5 min – 100 yr NOAA intensity (4.404 in/hr) the total peak flow would be calculated as 2.595 · 4.404 / 1.43 = 7.99 cfs. This peak flow is larger than the peak flow obtained with a simpler 6hr – 100yr approach. The level of the infiltration basin required to discharge 7.99 cfs (unmitigated) is 4.22 ft, which generates a freeboard of 1.27'. **Both scenarios satisfy Freeboard > 1.00 ft.**

Drawdown

Drawdown calculations are included in the area-volume-elevation-discharge tables, ignoring infiltration for the gravel layer, and including infiltration for the infiltration basin. Total drawdown times are 91 hours for gravel layer (last 0.1 ft takes 25 hours to drain) and 89 hours for the infiltration basin (74 hours for the infiltration part below level 3.25 ft, ignoring contribution of water pressure over the bottom soil).

References

"*County of San Diego Hydrology Manual*", June 2003

"*Technical Memorandum: SWMM Modeling for Valley Center Storage*", by REC Consultants

Declaration of Responsible Charge

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH THE CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

Luis Parra, PhD, PE, CFM.
R.C.E. 66377



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 or Printouts	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**	• DCV calculations from SSD-BMP tool • Dispersion Areas calculations from SSD-BMP tool	• Fact Sheet SD-B (Appendix E.8) • Appendix I
☐ **Tree Wells**	• DCV calculations from SSD-BMP tool • Tree Well calculations from SSD-BMP tool	• Fact Sheet SD-A (Appendix E.7) • Appendix I

- Submit this cover page and all "Required Sub-attachments or Printouts" 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)*	
DMA3	11,158.2	193.6	1.7	PDS2024-LDGRMJ-30505 Sheet 27
DMA4	4,817.8			PDS2024-LDGRMJ-30505 Sheet 27
DMA5	6,024.9	671.1	11.1	PDS2024-LDGRMJ-30505 Sheet 27
DMA6	8,712.0			PDS2024-LDGRMJ-30505 Sheet 27

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

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

  <u>Natural and Landscaped Areas</u>

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

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

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

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

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

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

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

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

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

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

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

DMA #	***DMA Area (ft^2)***	***Permit # and Sheet #***
DMA2	250.0	PDS2024-LDGRMJ-30505 Sheet 27

- "DMA #", "DMA Area", and "Permit # and Sheet #" are required.
- Check the boxes below to confirm that each required condition is satisfied for ALL de minimis DMAs on the site.

  ☒ Each DMA listed is less than 250 square feet and not adjacent or hydraulically connected to each other.

  ☒ Each DMA listed <u>fully</u> satisfies all design requirements and restrictions described in BMPDM Section 5.2.2 De Minimis DMAs.

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)**	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	
		☐	☐	

Copy and Paste table here for additional DMAs

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

6.3.1 Self-retaining DMAs with Impervious Dispersion Areas

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

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

Summary Sheet for Self-retaining DMAs with Impervious Area Dispersion

Attach Printouts from SSD-BMP tool below

- DCV calculations from SSD-BMP tool
- Dispersion Areas calculations from SSD-BMP tool

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)**

- 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 I.1. An automated version of Worksheet I.1 (Calculation of Design Capture Volume) is available at www.sandiegocounty.gov/stormwater under the Development Resources tab.

Summary Sheet for Self-retaining DMAs with Tree Wells

Attach Printouts from SSD-BMP tool below

- DCV calculations from SSD-BMP tool
- Tree Wells calculations from SSD-BMP tool

7.0 General Requirements

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

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

7.1 Engineer of Work Certification for Structural BMPs

Project Name South Village Storage
Permit Application Number PDS2024-LDGRMJ-30505

CERTIFICATION

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

I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP SWQMP by County staff is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of structural storm water BMPs for this project, of my responsibilities for their design.

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

C 59121 Exp 6/30/27
Engineer of Work's Signature, PE Number & Expiration Date

Brent Charles Moore
Print Name

Alidade Engineering
Company

11/13/2025
Date

Engineer's Seal:



7.2 Structural BMP Strategy

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

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

We coordinated with the project design team to layout the proposed self-storage site and at the same time allow sufficient area to construct the proposed infiltration basin in the best area available to collect, clean and infiltrate the runoff from the project site. We prepared the conceptual grading plan and determined the areas tributary to the proposed infiltration basin to preliminarily determine whether or not the proposing basin size would be sufficient or if we needed to redesign and re-grade the site to adjust the tributary area accordingly. At the same time, we determined the runoff factors for the proposed tributary area to determine if we needed to reduce the amount of impervious area tributary to the proposed infiltration basin. We then met with our subconsultant REC Consultants to discuss whether or not we could utilize street trees or rain barrels to effectively reduce the DCV for the site. REC's concern with street trees was that although they may be good for reducing the DCV and be effective in meeting the flow control requirement, they would not be effective at reducing the peak flow from the 100-year storm event. In addition, the project does not propose habitable structures greater than 9 stories tall. Therefore, in accordance with Section B.2.1 of the BMP Design Manual, capture and use is considered infeasible for the project.

The next step was to have the Geotechnical Engineer for the project perform infiltration / percolation tests as outlined in Appendix D of the BMP Design Manual in the location we have chosen for the treatment control BMP. The Geotechnical Engineer filled out Tables D.1-1 and D.2-3 for the proposed basin to determine if the proposed basin location would be restricted from allowing infiltration into the underlying soils and to calculate the required safety factor to be applied to the observed infiltration rates from the field tests for the basin location. Based upon the results of Table D.1-1, infiltration from the site would be unrestricted.

With this information in hand, we then filled out Worksheet B.1 to calculate the DCV for the basin, Worksheet B.2 to determine the retention requirements for the basin and Worksheet B.3 to verify the BMP performance for the proposed infiltration basin. The proposed basin was designed to be integrated to meet both the pollutant control and flow control requirements. Our subconsultant REC Consultants performed a SWMM modeling analysis for the basin to verify that the basin as designed would meet the flow control requirement or if additional facilities would be required. REC's analysis indicated that the proposed infiltration basin alone would not meet the DCV infiltration requirements for an infiltration basin. Therefore, we revised the pavement area between the proposed buildings to be constructed with GravelPave2 that would be fully lined and contain a minimum of 18-inch section of rock with 40% voids, multiple perforated pipes and flow control orifices at each of the perforated pipe connection points to the onsite private storm drain system. The added rock storage area provided the additional storage necessary to allow the proposed infiltration basin to be considered satisfactory for water quality purposes. Discussion from REC Consultants regarding the design of the system as a whole is as follows:

"The system proposed for this project is not a standard DCV system. Instead, it consists of a gravel pavement section that acts as a detention system and releases runoff slowly to the infiltration basin so that the infiltration basin can work more efficiently. The infiltration basin, composed of a 3-foot gravel layer and a 2.5-foot surface area, has a relatively small orifice (1-inch) at an elevation of 3.0

feet (top of the rock surface) containing a volume (6,792 square feet) smaller than the DCV. This orifice, located just above the rock layer, is there to help optimize hydromodification compliance and increase the volume available for routing purposes. Even if the volume below the low flow orifice is less than the DCV, for large depths, there is a simultaneous occurrence of infiltration and discharge. In other words, for a depth of 3.5 feet (for example), the orifice is discharging 0.018 cfs, while at the same time, the bottom of the infiltration basin is infiltrating at a larger rate of 0.038 cfs. The only way to prove that the infiltration basin is large enough to satisfy water quality requirements is using continuous simulation information to determine how much volume entering into the basin is infiltrating and how much is being treated. Following the POST_GRAVEL-II.RPT results document from SWMM, POC-1 receives 3.887 million gallons, of which 0.955 million correspond to the bypass pervious areas. Therefore, 2.932 million gallons come from the infiltration basin (3.887 – 0.955). At the same time, there are 63.582 million gallons entering the infiltration basin. Therefore, 63.582 – 2.932 = 60.650 million gallons have infiltrated during the continuous simulation period. It means that 60.650/63.582 = 95.4% of the runoff was infiltrated. Long term infiltration treatment exceeding 80% of runoff treated (infiltrated) is considered to be satisfactory for water quality purposes. Therefore, the complex gravel layer combined with the infiltration basin exceeds treatment requirements to the point that only 4.6% of the runoff leaves the infiltration system."

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

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

BMP ID #	DMA #	DMA Area (ft²)	Structural BMP Type							Permit # and Sheet #
			Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management [1]	Other	
INF-1	DMA1	166,099.9	☐	☒	☐	☐	☐	☒	☐	PDS2024-LDGRMJ-30505 Sheet 27
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
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			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	
			☐	☐	☐	☐	☐	☐	☐	

Copy and Paste table here for additional BMPs

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

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

Structural BMP ID #	INF-1	**Permit # and Sheet #**	PDS2024-LDGRMJ-30505 Sheet 27

BMP Type

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

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

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

Harvest and Use
- ☐ Cistern (HU-1)

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

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

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

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Brent C. Moore – Alidade Engineering 43950 Margarita Road, Suite 'C' Temecula, CA 92592

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

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

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

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

Structural BMP ID #	STOR1	**Permit # and Sheet #**	PDS2024-LDGRMJ-30505 Sheets 6, 7 & 27

BMP Type

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

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

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

Harvest and Use
- ☐ Cistern (HU-1)

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

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

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

BMP Verification (See BMPDM Section 8.3)

Provide name and contact information for the party responsible to sign BMP verification forms	Brent C. Moore – Alidade Engineering 43950 Margarita Road, Suite 'C' Temecula, CA 92592

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

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

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

Gravel storage and flow control upstream of the Infiltration BMP. GravelPave2 area is completely lined as the Geotechnical Engineer wanted zero infiltration immediately adjacent to the buildings. As it is completely lined, the design will include a perforated drain located at the bottom of the rock section with 7/16" orifice openings at each connection to a proposed catch basin for flow control purposes.

Copy and Paste table here for additional BMPs

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

7.4 Storm Water Pollutant Control Worksheet Calculations

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

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

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

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA1										unitless
	2	85th Percentile 24-hr Storm Depth	0.76										inches
	3	Impervious Surfaces Not Directed to Dispersion Area (C=0.90)	134,955										sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area (C=0.30)	5,576										sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area (C=0.10)	25,249										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)	320										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?	No	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	166,100	0	0	0	0	0	0	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.76	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	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	7,995	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	0.76	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	7,995	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	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	126,236	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	7,995	0	0	0	0	0	0	0	0	0	cubic-feet

No Warning Messages

Automated Worksheet B.2: Retention Requirements (V2.0) FOR REFERENCE ONLY

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Basic Analysis	1	Drainage Basin ID or Name	DMA1	-	-	-	-	-	-	-	-	-	unitless
	2	85th Percentile Rainfall Depth	0.76	-	-	-	-	-	-	-	-	-	inches
	3	Predominant NRCS Soil Type Within BMP Location	B										unitless
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Unrestricted										unitless
	5	Nature of Restriction											unitless
	6	Do Minimum Retention Requirements Apply to this Project?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No										yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	Yes										yes/no
	9	Design Infiltration Rate Recommended by Geotechnical Engineer	0.235										in/hr
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.235	-	-	-	-	-	-	-	-	-	in/hr
	11	Percent of Average Annual Runoff that Must be Retained within DMA	29.6%	-	-	-	-	-	-	-	-	-	percentage
	12	Fraction of DCV Requiring Retention	0.22	-	-	-	-	-	-	-	-	-	ratio
	13	Required Retention Volume	1759	-	-	-	-	-	-	-	-	-	cubic-feet

No Warning Messages

Automated Worksheet B.3: BMP Performance (V2.0) FOR REFERENCE ONLY

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
BMP Inputs	1	Drainage Basin ID or Name	DMA1	-	-	-	-	-	-	-	-	-	sq-ft
	2	Design Infiltration Rate Recommended	0.235	-	-	-	-	-	-	-	-	-	in/hr
	3	Design Capture Volume Tributary to BMP	7,995	-	-	-	-	-	-	-	-	-	cubic-feet
	4	Is BMP Vegetated or Unvegetated?	Unvegetated										unitless
	5	Is BMP Impermeably Lined or Unlined?	Unlined										unitless
	6	Does BMP Have an Underdrain?	No Underdrain										unitless
	7	Does BMP Utilize Standard or Specialized Media?	Standard										unitless
	8	Provided Surface Area	5,576										sq-ft
	9	Provided Surface Ponding Depth	0										inches
	10	Provided Soil Media Thickness	0										inches
	11	Provided Gravel Thickness (Total Thickness)	36										inches
	12	Underdrain Offset											inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)											inches
	14	Specialized Soil Media Filtration Rate											in/hr
	15	Specialized Soil Media Pore Space for Retention											unitless
	16	Specialized Soil Media Pore Space for Biofiltration											unitless
	17	Specialized Gravel Media Pore Space											unitless
Retention Calculations	18	Volume Infiltrated Over 6 Hour Storm	655	0	0	0	0	0	0	0	0	0	cubic-feet
	19	Ponding Pore Space Available for Retention	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	unitless
	20	Soil Media Pore Space Available for Retention	0.40	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	unitless
	21	Gravel Pore Space Available for Retention (Above Underdrain)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	22	Gravel Pore Space Available for Retention (Below Underdrain)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	23	Effective Retention Depth	14.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	24	Fraction of DCV Retained (Independent of Drawdown Time)	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	25	Calculated Retention Storage Drawdown Time	61	0	0	0	0	0	0	0	0	0	hours
	26	Efficacy of Retention Processes	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	27	Volume Retained by BMP (Considering Drawdown Time)	6,823	0	0	0	0	0	0	0	0	0	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	1,172	0	0	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	cfs
	30	Max Soil Filtration Rate Allowed by Underdrain Orifice	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	in/hr
	31	Soil Media Filtration Rate per Specifications	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	in/hr
	32	Soil Media Filtration Rate to be used for Sizing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	in/hr
	33	Depth Biofiltered Over 6 Hour Storm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	34	Ponding Pore Space Available for Biofiltration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	35	Soil Media Pore Space Available for Biofiltration	0.00	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	unitless
	36	Gravel Pore Space Available for Biofiltration (Above Underdrain)	0.00	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	unitless
	37	Effective Depth of Biofiltration Storage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	38	Drawdown Time for Surface Ponding	0	0	0	0	0	0	0	0	0	0	hours
	39	Drawdown Time for Effective Biofiltration Depth	0	0	0	0	0	0	0	0	0	0	hours
	40	Total Depth Biofiltered	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
	41	Option 1 - Biofilter 1.50 DCV: Target Volume	1,758	0	0	0	0	0	0	0	0	0	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	0	0	0	0	0	0	0	0	0	0	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	879	0	0	0	0	0	0	0	0	0	cubic-feet
	44	Option 2 - Provided Storage Volume	0	0	0	0	0	0	0	0	0	0	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	46	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	-	-	-	-	-	-	-	-	-	yes/no
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	48	**Deficit of Effectively Treated Stormwater**	-1,199	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	cubic-feet

Attention!

-This BMP does not fully satisfy the performance standards for pollutant control for the drainage area.

SEE NEXT PAGE FOR EXPLANATION OF WHY THE PROPOSED INFILTRATION BMP MEETS COUNTY BMP MANUAL DESIGN STANDARDS.

Automated Worksheet B.4: Reduced Size BMP Maintenance Interval (V2.0) FOR REFERENCE ONLY

Category	#	Description	*i*	*ii*	*iii*	*iv*	*v*	*vi*	*vii*	*viii*	*ix*	*x*	Units
Drainage Basin Info	1	Drainage Basin ID or Name	-	-	-	-	-	-	-	-	-	-	unitless
	2	Final Effective Tributary Area	-	-	-	-	-	-	-	-	-	-	sq-ft
	3	Provided BMP Surface Area	-	-	-	-	-	-	-	-	-	-	sq-ft
Biofiltration Clogging Inputs	4	Average Annual Precipitation	15.4										inches
	5	Load to Clog (default =2.0)	2.0										lb/sq-ft
	6	TSS Pretreatment Efficacy	0.00										yes/no
	7	Percentage "Commercial"											percentage
	8	Percentage "Education"											percentage
	9	Percentage "Industrial"											percentage
	10	Percentage "Low Traffic Areas"	3%										percentage
	11	Percentage "Multi-Family Residential"											percentage
	12	Percentage "Roof Areas"	42%										percentage
	13	Percentage "Single Family Residential"											percentage
	14	Percentage "Transportation"	40%										percentage
	15	Percentage "Vacant/Open Space"	15%										percentage
	16	Percentage "Steep Hillslopes"											percentage
Result	17	Total Percentage of Above Land Uses	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	percentage
	18	Average TSS Concentration for Tributary After Pretreatment	37	0	0	0	0	0	0	0	0	0	mg/L
	19	Average Annual Runoff Volume	0	0	0	0	0	0	0	0	0	0	cubic-feet
	20	Average Annual TSS Load	0	0	0	0	0	0	0	0	0	0	lb/yr
	21	Available Sediment Storage within BMP	0	0	0	0	0	0	0	0	0	0	lb
	22	Anticipated Major Maintenance Frequency	-	-	-	-	-	-	-	-	-	-	years

No Warning Messages

Water Quality Considerations for the Gravel Pavement Detention + Infiltration Basin System

The system proposed for this project is not a standard DCV system. Instead, it consists on a gravel pavement section that acts as a detention system and releases runoff slowly to the infiltration basin, so that it can work more efficiently. The infiltration basin, composed of a 2.5 ft gravel layer and a 3 ft surface area, has four (4) relatively small orifices (1" each) at an elevation of 3.25 ft, containing a volume (10,061 ft^3) larger than the DCV (7995 ft^3) but no large enough for a simplified calculation when the drawdown time of the infiltration portion is considered (74 hr for h<3.25 ft), that would require 140% of DCV per Figure B.3-1, which is approximately 11200 ft^3). The orifices, located 9" above the gravel layer, are there to help to optimize hydromodification compliance and increase the volume available for routing purposes.

Even if the volume below the low flow orifices is less than the percentage of DCV required, for large depths, there is a simultaneous occurrence of infiltration and discharge. In other words, for a depth of 3.5 ft (for example) the orifices are discharging 0.049 cfs, while at the same time, the bottom of the infiltration basin is infiltrating at a rate of 0.038 cfs. The only way to prove that the infiltration basin is enough to satisfy water quality requirements, is using continuous simulation information to determine how much volume entering into the basin is infiltrating and how much is being treated.

Following the **POST_gravel-VI.rpt** results document from SWMM (taken from Appendix 9 of the HMP document, see two screenshots below), POC-1 receives **4.882** million gallons, of which **1.65** million (0.40+1.11+0.14) corresponds to areas not draining to the BMP-1 (DMA-3, DMA-5 and DMA-4-nat respectively, see below). Therefore, **3.232** million gallons come from the infiltration basin (4.882 – 1.65). At the same time, there are **72.652** million gallons entering the BMP-1 infiltration basin. Therefore, 72.652 – 3.232 = **69.420** million of gallons have infiltrated during the continuous simulation period. It means that 69.420/72.652 = **95.6%** of the runoff was infiltrated. Long-term infiltration treatment exceeding 80% of runoff treated (infiltrated) and is considered satisfactory for water quality purposes. Therefore, the complex gravel layer combined with infiltration basin significantly exceeds treatment requirements, to the point that only 4.4% of the runoff leaves the infiltration system.

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**************************
Subcatchment Runoff Summary
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Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-1A	989.87	0.00	126.63	101.75	764.21	70.12	4.38	0.772
DMA-1B	989.87	0.00	5.74	929.68	55.46	0.29	0.20	0.056
DMA-3	989.87	0.00	6.45	926.50	58.44	0.40	0.25	0.059
DMA-5	989.87	0.00	36.99	706.38	249.72	1.11	0.18	0.252
DMA-4-slope	989.87	0.00	5.67	928.34	57.79	0.11	0.07	0.058
DMA-4-nat	989.87	94.76	2.97	960.05	123.85	0.14	0.11	0.114
DMA-1C	989.87	0.00	53.45	599.98	338.24	2.30	0.28	0.342

```
**********************
Node Inflow Summary
**********************
```

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
POC-1	OUTFALL	0.54	2.02	6040 19:05	1.650	4.882
BMP-1	STORAGE	0.48	2.88	10842 04:52	2.588	72.652
Up-DET	STORAGE	4.38	4.38	15594 17:00	70.118	70.118

GRAVEL LAYER Qinf (cfs): 0

Elevation	h (ft)	Area (ft)	V (cu-ft)	V (ac-ft)	Q (cfs)	Δt (hr)
1315.00	0	22884	0.0	0	0	
1315.10	0.1	22884	2288.4	0.05253	0.051	24.93
1315.20	0.2	22884	4576.8	0.10507	0.076	10.01
1315.30	0.3	22884	6865.2	0.15760	0.095	7.43
1315.40	0.4	22884	9153.6	0.21014	0.111	6.17
1315.50	0.5	22884	11442.0	0.26267	0.124	5.41
1315.60	0.6	22884	13730.4	0.31521	0.136	4.89
1315.70	0.7	22884	16018.8	0.36774	0.148	4.48
1315.80	0.8	22884	18307.2	0.42028	0.158	4.15
1315.90	0.9	22884	20595.6	0.47281	0.168	3.90
1316.00	1	22884	22884.0	0.52534	0.177	3.69
1316.10	1.1	22884	25172.4	0.57788	0.186	3.50
1316.20	1.2	22884	27460.8	0.63041	0.194	3.35
1316.30	1.3	22884	29749.2	0.68295	0.203	3.20
1316.40	1.4	22884	32037.6	0.73548	0.21	3.08
1316.50	1.5	22884	34326.0	0.78802	0.218	2.97
1316.53	1.525	314	34333.9	0.78820	1.396	
1316.55	1.55	1257	34353.5	0.78865	3.549	
1316.58	1.575	2827	34404.5	0.78982	6.336	
1316.60	1.6	5027	34502.7	0.79207	9.636	

Note: area of gravel (0 ft to 1.5 ft) has already being reduced by porosity.

Drawdown:

TOT (hr)	**91.2**

INFILTRATION BASIN (BMP-1 in SWMM) Qinf (cfs): 0.0376

Elevation	h (ft)	Area (ft)	V (cu-ft)	V (ac-ft)	Q (cfs)	Δt (hr)
1298.50	0.00	2250	0	0.00000		
1299.50	1.00	2250	2250	0.05165		16.61
1301.00	2.50	2250	5625	0.12913		24.91
1301.00	2.501	5625	5629	0.12922		0.03
1301.08	2.583	5688	6095	0.13991		3.44
1301.17	2.667	5753	6571	0.15086		3.52
1301.25	2.750	5815	7053	0.16192		3.56
1301.33	2.833	5880	7541	0.17311		3.60
1301.42	2.917	5948	8033	0.18442		3.64
1301.50	3.000	6014	8532	0.19587		3.68
1301.58	3.083	6082	9036	0.20744		3.72
1301.67	3.167	6151	9546	0.21914		3.76
1301.75	3.250	6220	10061	0.23097	0	3.80
1301.83	3.333	6291	10582	0.24294	0.021	3.01
1301.92	3.417	6363	11110	0.25504	0.038	2.18
1302.00	3.500	6435	11643	0.26728	0.049	1.83
1302.04	3.542	6470	11912	0.27346	0.053	0.84
1302.08	3.583	6509	12182	0.27966	0.058	0.81
1302.17	3.667	6583	12728	0.29219	0.065	1.53
1302.25	3.750	6658	13279	0.30485	0.072	1.44
1302.33	3.833	6735	13837	0.31766	0.079	1.37
1302.42	3.917	6812	14402	0.33062	0.084	1.32
1302.50	4.000	6890	14973	0.34373	1.283	0.22
1302.58	4.083	6969	15550	0.35698	3.470	0.07
1302.67	4.167	7049	16134	0.37039	6.300	0.03
1302.75	4.250	7130	16725	0.38395	9.650	0.02
1302.83	4.333	7211	17323	0.39767	13.45	0.01
1302.92	4.417	7294	17927	0.41155	17.65	0.01
1303.00	4.500	7378	18538	0.42558	22.22	0.01
1303.08	4.583	7462	19157	0.43978	27.12	0.01
1303.17	4.667	7548	19782	0.45413	32.34	0.01
1303.25	4.750	7634	20415	0.46866	37.86	0.01
1303.33	4.833	7722	21054	0.48334	43.66	0.00
1303.42	4.917	7810	21702	0.49820	49.74	0.00
1303.50	5.000	7899	22356	0.51323	56.07	0.00
1303.58	5.083	7989	23018	0.52843	62.65	0.00
1303.67	5.167	8080	23688	0.54380	69.46	0.00
1303.75	5.250	8172	24365	0.55934	76.51	0.00
1303.83	5.333	8265	25050	0.57506	83.79	0.00
1303.92	5.417	8359	25742	0.59097	91.28	0.00
1304.00	5.500	8454	26443	0.60705	98.98	0.00

Drawdown 0'-3.25':	
TOT (hr)	**74.3**

Drawdown:	
TOT (hr)	**89.0**

7.5 Identification and Narrative of Receiving Water and Pollutants of Concern

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

A. General Description

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

B. Water Body Impairments and Priorities

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

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

C. Identification of Project Site Pollutants

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix J.5)

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

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

8.0 General Requirements

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

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

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

8.1 Flow Control Facility Design

Insert Flow Control Facility Design behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.1.

TECHNICAL MEMORANDUM:

SWMM Modeling for Hydromodification Compliance of:

Valley Center Storage

Prepared For:

Alidade Engineering
December 5, 2024. Updated: 7/7/25. 10/28/25. January 16th, 2026.

Prepared by:

Luis Parra, PhD, CPSWQ, ToR, D.WRE.
R.C.E. 66377



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REC Consultants, Inc.

TECHNICAL MEMORANDUM FOR VALLEY CENTER STORAGE

TO: County of San Diego

FROM: Luis Parra, PhD, PE, CFM.

DATE: May 14, 2024. Updated: 12/05/2004. 7/7/25. 10/28/25. 1/16/26.

RE: Summary of SWMM Modeling for Hydromodification Compliance for Valley Center Storage Development, 13630 Old Rd, Valley Center, CA 92082.

INTRODUCTION

This memorandum summarizes the approach used to model the commercial development project site located in the County of San Diego, California, in the City of Valley Center using the Environmental Protection Agency (EPA) Storm Water Management Model 5.0 (SWMM). SWMM models were prepared for the pre and post-developed conditions at the site in order to meet Order R9-2013-001 requirements of the California Regional Water Quality Control Board San Diego Region (SDRWQCB), as explained in the Final Hydromodification Management Plan (HMP), dated March 2011, prepared for the County of San Diego by Brown and Caldwell.

SWMM Model Development

The Valley Center Storage Development project comprises of the development of a commercial storage buildings with permeable gravel roadways and a downstream infiltration basin. Two (2) SWMM models were prepared for this study: the first for the pre-development and the second for the post-developed conditions. The project site drains to one (1) Point of Compliance (POC-1) located at the NW corner of the property, on Old Road, in Valley Center, CA.

The SWMM model was used since we have found it to be more compatible with San Diego area watersheds than the alternative San Diego Hydrology Model (SDHM) and because it is a non-proprietary model approved by the HMP document. For both SWMM models, flow duration curves were prepared to determine if the proposed HMP facilities are sufficient to meet the current HMP requirements.

Per the California Irrigation Management Information System “Reference Evaporation Zones” (CIMIS ETo Zone Map) the project site is located within the Zone 9 Evapotranspiration Area. Thus, evapotranspiration values for the site were modeled using Zone 9 average monthly values from Table G.1-1 from the 2020 BMP Design Manual. Per the site-specific geotechnical investigation and NRCS Web Soil Survey, the project site is situated upon Class B soil. Soils have been assumed to be uncompacted in the existing condition to represent the natural condition of the site while fully compacted in the post developed conditions. Other SWMM inputs for the subareas are discussed in the appendices to this document, where the selection of parameters is explained in detail.

HMP MODELING

EXISTING CONDITIONS

The current site is partially developed, containing 2 existing buildings and some impervious driveways and parking lots which is the extent of the impervious area (about 50% of the site). The other half of the site is pervious, including sparse vegetation, landscape, and some gravel roads/parking areas. The site generally drains in a Western direction towards Old Rd where it then drains North to POC-1. However, in existing conditions, a small portion (0.179 ac) drains to the East towards Valley Center Rd (POC-2), while another portion (0.857 ac) drains to the SE corner and eventually south via an existing pipe. In post developed conditions, POC-2 is not analyzed because the entire area originally draining to POC-2 in existing conditions drains to POC-1 in proposed conditions. POC-3 is not analyzed either because the area will reduce to 0.20 acres with no imperviousness, and even if the existing impervious area is not included in existing conditions, there is a larger area and larger fraction of compacted area, so POC-3 will comply with hydromodification conditions by definition. As mentioned for POC-3, all the existing impervious areas within the project area (roofs/roads) is not considered because the project exceeds the 50% rule and the entire area must be modeled as pervious for hydromodification compliance. Although the existing impervious area can be modeled as compacted in pre-development conditions, for simplicity of modeling and conservatively all areas were modeled as uncompacted in pre-development conditions.

TABLE 1 – SUMMARY OF PRE-DEVELOPED CONDITIONS

POC	DMA	Tributary Area, A (ac)	Impervious %, Ip[(1)]
POC-1	DMA-1	**3.280**	0%
POC-2	DMA-2	0.179	0% (not modeled as post-dev = 0 ac)
POC-3	DMA-3	0.857	0% (not modeled as post-dev = .2 ac)

Notes: (1) – Per the 2013 RWQCB permit, existing condition impervious surfaces disturbed by the project are not to be accounted for in existing conditions analysis.

DEVELOPED CONDITIONS

Most of the storm water runoff from the proposed project site is routed to POC-1, the same point as in pre-development conditions. For POC 1, the runoff from the developed project site first arrives at a large portion of the project that is composed of pervious pavement (detaining some of the runoff, to be modeled as a detention basin without infiltration due to the presence of an impervious liner under the gravel) and from there is drained to one (1) infiltration basin. Once flows are routed via the proposed infiltration basin, developed onsite flows are then conveyed to POC 1. The Tributary area draining to POC-1 has increased in developed conditions due to (a) the area previously draining to POC-2 now being routed to POC-1 instead, (b) 0.657 acres belonging to POC-3 now drains to POC-1, and (c) also because a small area offsite of the property drains to POC-1 (See post-development map).

It is assumed all storm water quality requirements for the project will be met by the infiltration basin. However, detailed water quality requirements are not discussed within this technical memo. For further information in regard to storm water quality requirements for the project, please refer to the site-specific Storm Water Quality Management Plan (SWQMP).

One (1) upstream gravel pavement acting as a detention basin and one (1) downstream infiltration facilities are both located within the project site and are responsible for handling hydromodification requirements for the project's runoff to POC 1. In developed conditions, the infiltration basin will have a surface depth and a riser spillway structure (see dimensions in Table 4). Flows will then discharge from the basin via the outlet structure or infiltrate through the base of the facility. The riser structure will act as a spillway such that peak flows can be safely discharged to the receiving storm drain systems. Regarding the gravel pavement, runoff will pond at the bottom, and discharge thru one of many 7/16" orifices at the end of all French Drains. Once the volume is full, water will overflow into one of many grated inlets. Characteristics of the gravel layer acting as detention facility are shown in Table 3.

TABLE 2 – SUMMARY OF POST-DEVELOPED CONDITIONS

POC	DMA	Tributary Area, A (ac)	Impervious %, Ip
POC-1	DMA-1A	3.379	89.05%
	DMA-1B	0.194	0%
	DMA-1C	0.250	35.64%
	DMA-2	Not Used	-
	DMA-3	0.250	1.73%
	DMA-4-slope	0.0687	0%
	DMA-4-nat	0.0419	0%
	DMA-5	0.164	25.02%
TOTAL	--	**4.348**	**72.09%**

BMP MODELING FOR HMP PURPOSES

Modeling of dual-purpose Water Quality/HMP BMP

One (1) infiltration basin is proposed for water quality treatment and hydromodification conformance for the project site, while the gravel layer will help with hydromodification compliance. Tables 3, 4, & 5 illustrate the dimensions required for HMP compliance according to the SWMM model that was undertaken for the project.

FLOW DURATION CURVE COMPARISON

The Flow Duration Curve (FDC) for the site was compared at the POC by exporting the hourly runoff time series results from SWMM to a spreadsheet. Q_2 and Q_{10} were determined with a partial duration statistical analysis of the runoff time series in an Excel spreadsheet using the Cunnane plotting position method (which is the preferred plotting methodology in the HMP Permit). As the SWMM Model includes a statistical analysis based on the Weibull Plotting Position Method, the Weibull Method was also used within the spreadsheet to ensure that the results were similar to those obtained by the SWMM Model.

The range between 10% of Q_2 and Q_{10} was divided into 100 equal time intervals; the number of hours that each flow rate was exceeded was counted from the hourly series. Additionally, the intermediate peaks with a return period "i" were obtained (Q_i with i=3 to 9). For the purpose of the plot, the values were presented as percentage of time exceeded for each flow rate. FDC comparison at the POC is illustrated in Figure 1 in both normal and logarithmic scale. Attachment 5 provides a detailed drainage exhibit for the

post-developed condition. As can be seen in Figure 1, the FDC for the proposed condition is within 110% of the curve for the existing condition in both peak flows and durations. The additional runoff volume generated from developing the site will be released to the existing point of discharge at a flow rate below the 10% Q_2 lower threshold for POC-1. Additionally, the project will also not increase peak flow rates between the Q_2 and the Q_{10}, as shown in the peak flow tables in Attachment 1.

TABLE 3 – SUMMARY OF GRAVEL LAYER (AS STORAGE)

BMP	Gravel Pavement			Outlets			
	Area (sq-ft)	Depth (in)	n	Number - orifices	D (in)	Number - weirs	Perimeter each (ft)
Up-DET	57210	18	0.40	35	$^{7}/_{16}$	16	6

Note : Total perimeter at weir elevation is 16 x 6 = 96 ft.

TABLE 4 – SUMMARY OF BMP INFILTRATION BASIN DIMENSIONS

BMP	Tributary Area (Ac)	DIMENSIONS			
		BMP Area(1) (ft^2)	Gravel thickness (ft)	Depth (ft) (gravel + surface)	Total Basin Surface Depth(2) (ft)
1	3.823	5,625	2.50	5.50	3.00

Notes: (1) Area at bottom of surface slope (6" of the slope covered by gravel).
(2) Total surface depth of BMP from top crest elevation to the surface of the basin

TABLE 5 – SUMMARY OF OUTLET DETAILS

BMP	Low Flow Orifice		Emergency Overflow	
	Number and Diameter	Invert (ft)	L(1) (ft)	Invert (ft)
1	4 @ 1"	3.25	16	3'11" (3.917)

Notes: L = Perimeter of 4' box.

Discussion of the Manning's coefficient (Pervious Areas) for Pre and Post-Development Conditions

Typically, Manning's coefficient is selected as n = 0.15 (Appendix G) for pervious areas and n = 0.012 for impervious areas. Due to the complexity of the model carried out in pre and post-development conditions, a more accurate value of the Manning's coefficient for pervious areas has been chosen. Taken into consideration the "Handouts on Supplemental Guidance – Handout #2: Manning's "n" Values for Overland Flow Using EPA SWMM V.5" by the County of San Diego (Reference [6]) a more accurate value of n = 0.05 has been selected (see Table 1 of Reference [6] included in Attachment 7). An average n value between pasture and shrubs and bushes (which is also the value of dense grass) has been selected per the reference cited, for light rain (<0.8 in/hr) as more than 99% of the rainfall has been measured with this intensity. The selected n-value and land cover categories referenced are consistent with the land cover found onsite.

DRAWDOWN OF BMPs

Drawdown calculations are determined with the general elevation-area-volume-discharge tables, including infiltration. Infiltration in the gravel basin is 0 cfs, while infiltration in the infiltration basin is a minimum of 0.038 cfs (Qi = A (sq-ft)/(12 x 36 x f (in/hr)). Conservative infiltration determination does not account for suction front, depth of water increasing infiltration, or area increment at surface as a vertical impervious liner would be included. The total drawdown time is 91 hours for the gravel layer and 89 hours for the infiltration basin (74 hrs below 3.25 ft, the invert of the 4 – 1" orifices), less than the maximum required (96 hours).

SUMMARY

This study has demonstrated that the proposed HMP BMPs provided for the Valley Center Storage project site are sufficient to meet the current HMP criteria if the areas and volumes recommended within this technical memorandum, and the respective outlet structures are incorporated as specified within the proposed project site.

KEY ASSUMPTIONS

1. Type B Soils are representative of the existing condition site.
2. The infiltration basin will be unlined, with values according to the infiltration calcs.
3. The gravel layer will be lined with an impervious liner. Infiltration there is not considered.

ATTACHMENTS

1. Q_2 to Q_{10} Comparison Tables
2. Flow Duration Curve Analysis
3. List of the "n" largest Peaks: Pre-Development and Post-Development Conditions
4. Area Vs Elevation & Discharge Vs Elevation
5. Pre & Post Development Maps, Project Plan and Section Sketches
6. SWMM Input Data in Input Format (Existing and Proposed Models)
7. EPA SWMM Figures and Explanations
8. Soil Maps & Geotechnical Investigation
9. Summary files from the SWMM Model

REFERENCES

[1] – *"Review and Analysis of San Diego County Hydromodification Management Plan (HMP): Assumptions, Criteria, Methods, & Modeling Tools – Prepared for the Cities of San Marcos, Oceanside & Vista",* May 2012, TRW Engineering.

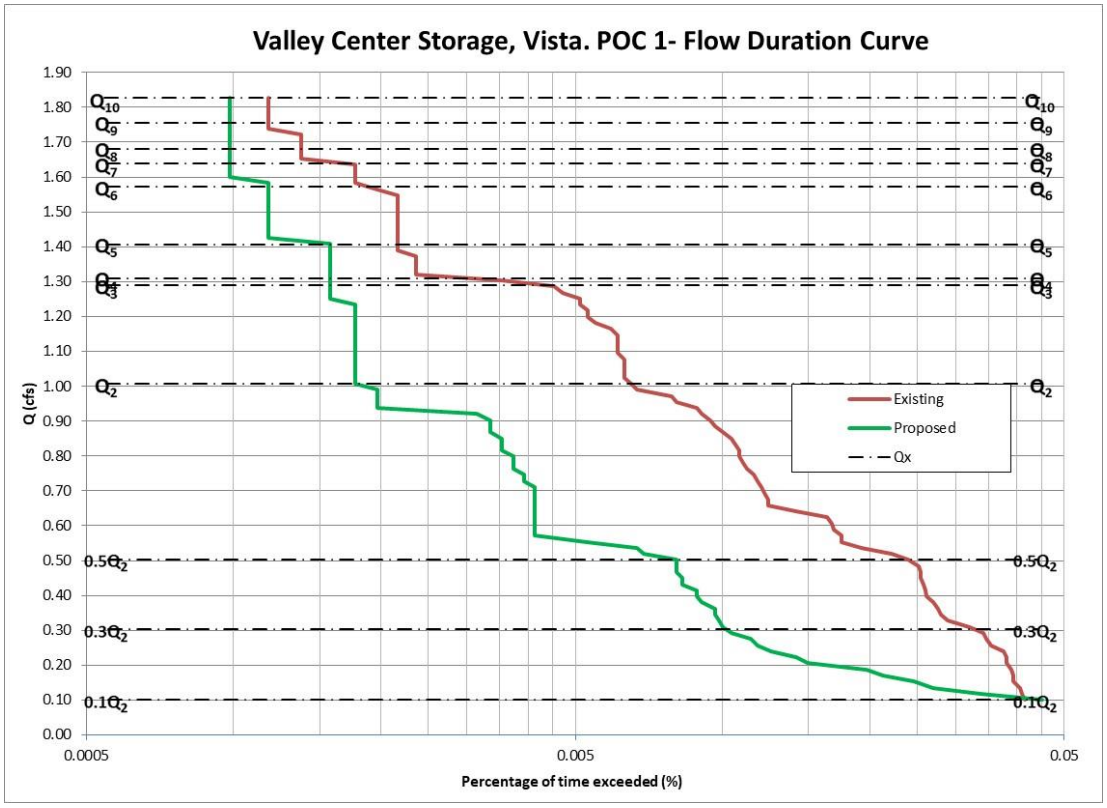
[2] – *"Final Hydromodification Management Plan (HMP) prepared for the County of San Diego",* March 2011, Brown and Caldwell.

[3] - Order R9-20013-001, CA Regional Water Quality Control Board San Diego Region (SDRWQCB).

[4] – "*Handbook of Hydrology*", David R. Maidment, Editor in Chief. 1992, McGraw Hill.

[5] – "County of San Diego *BMP Design Manual*", 2020.

[6] – "*Improving Accuracy in Continuous Hydrologic Modeling: Guidance for Selecting Pervious Overland Flow Manning's n Values in the San Diego Region*", 2016, TRW Engineering.



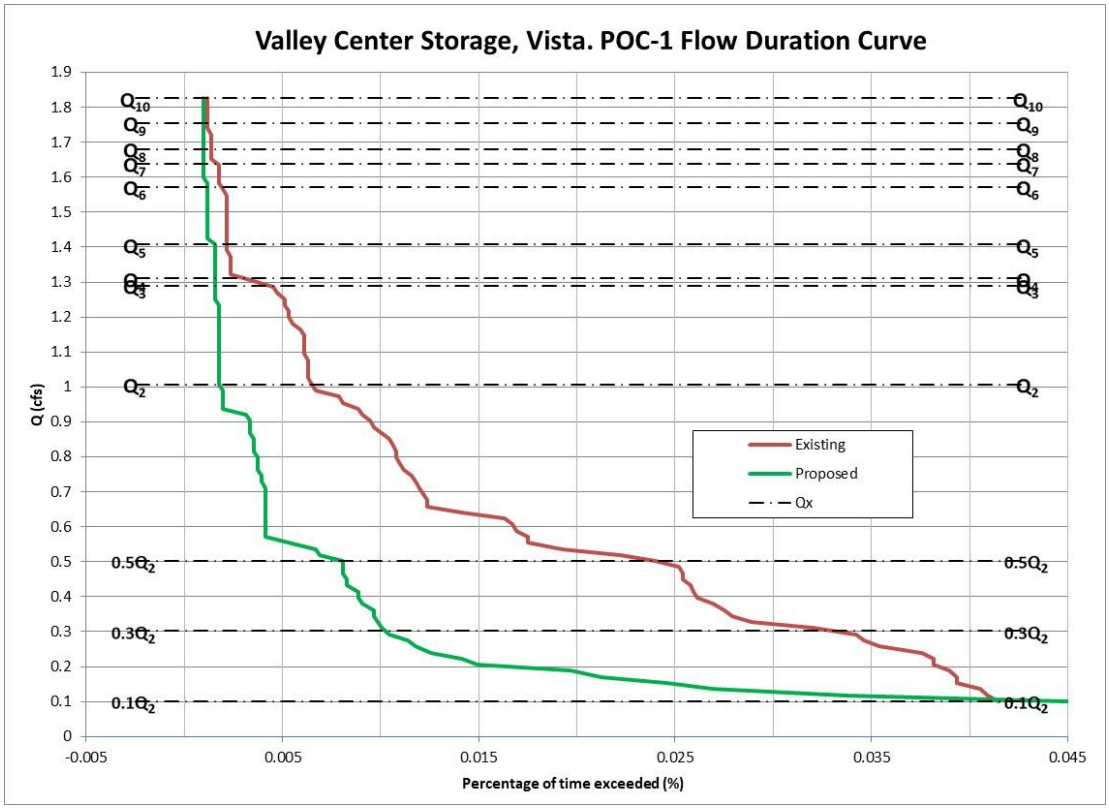


Figure 1a and 1b. Flow Duration Curve Comparison (logarithmic and normal "x" scale)

ATTACHMENT 1.

Q_2 to Q_{10} Comparison Table – POC 1

Return Period	Existing Condition (cfs)	Mitigated Condition (cfs)	Reduction, Exist - Mitigated (cfs)
2-year	1.01	0.23	0.78
3-year	1.29	0.28	1.01
4-year	1.31	0.31	1.00
5-year	1.41	0.37	1.03
6-year	1.57	0.43	1.14
7-year	1.64	0.49	1.15
8-year	1.68	0.62	1.06
9-year	1.76	0.78	0.97
10-year	1.83	0.89	0.93

ATTACHMENT 2

FLOW DURATION CURVE ANALYSIS

1) Flow duration curve shall not exceed the existing conditions by more than 10%, neither in peak flow nor duration.

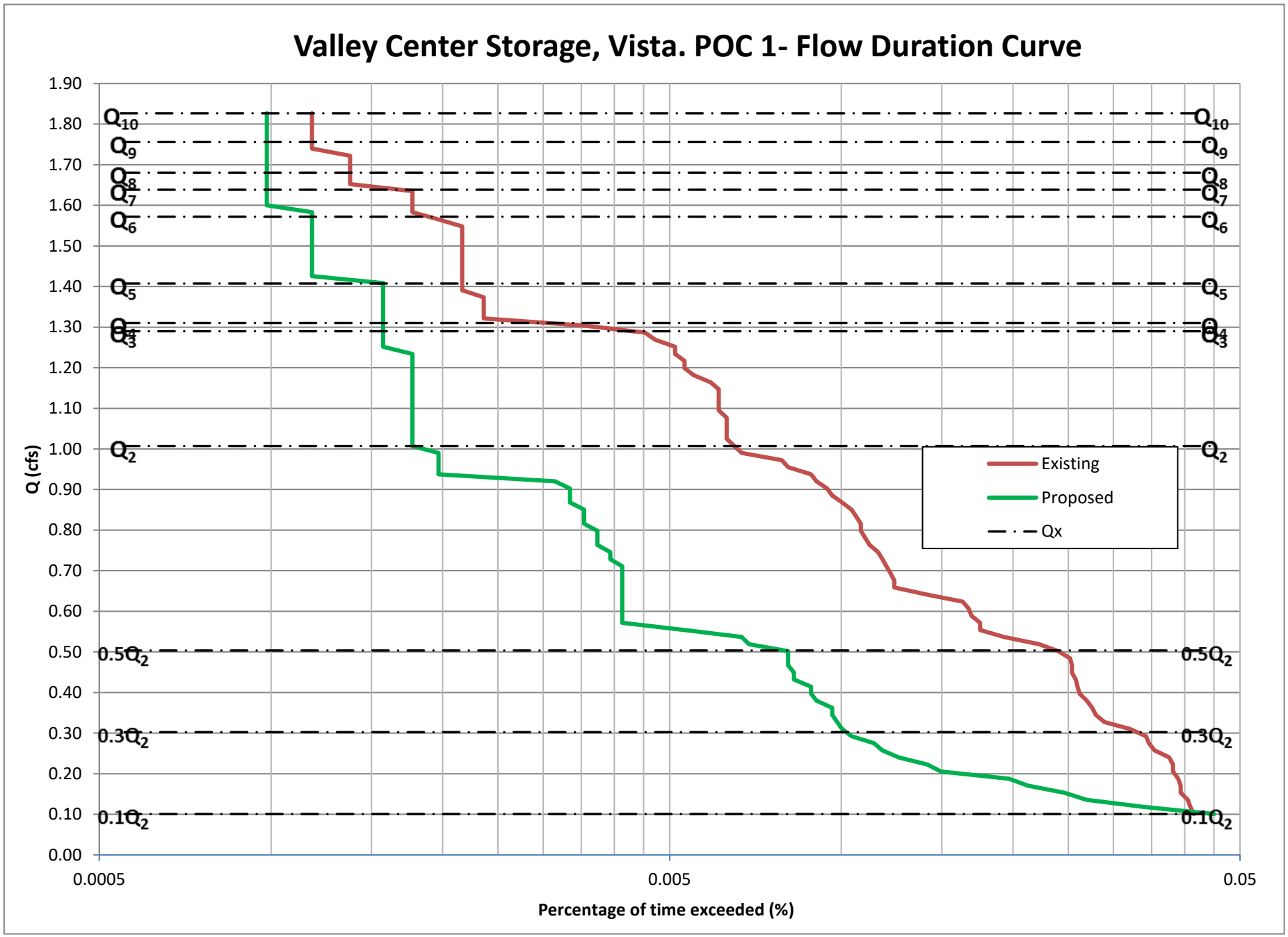
The figures on the following pages illustrate that the flow duration curve in post-development conditions after the proposed BMP is below the existing flow duration curve. The flow duration curve table following the curve shows that if the interval $0.10Q_2 - Q_{10}$ is divided in 100 sub-intervals, then a) the post development divided by pre-development durations are never larger than 110% (the permit allows up to 110%); and b) there are no more than 10 intervals in the range 101%-110% which would imply an excess over 10% of the length of the curve (the permit allows less than 10% of excesses measured as 101-110%).

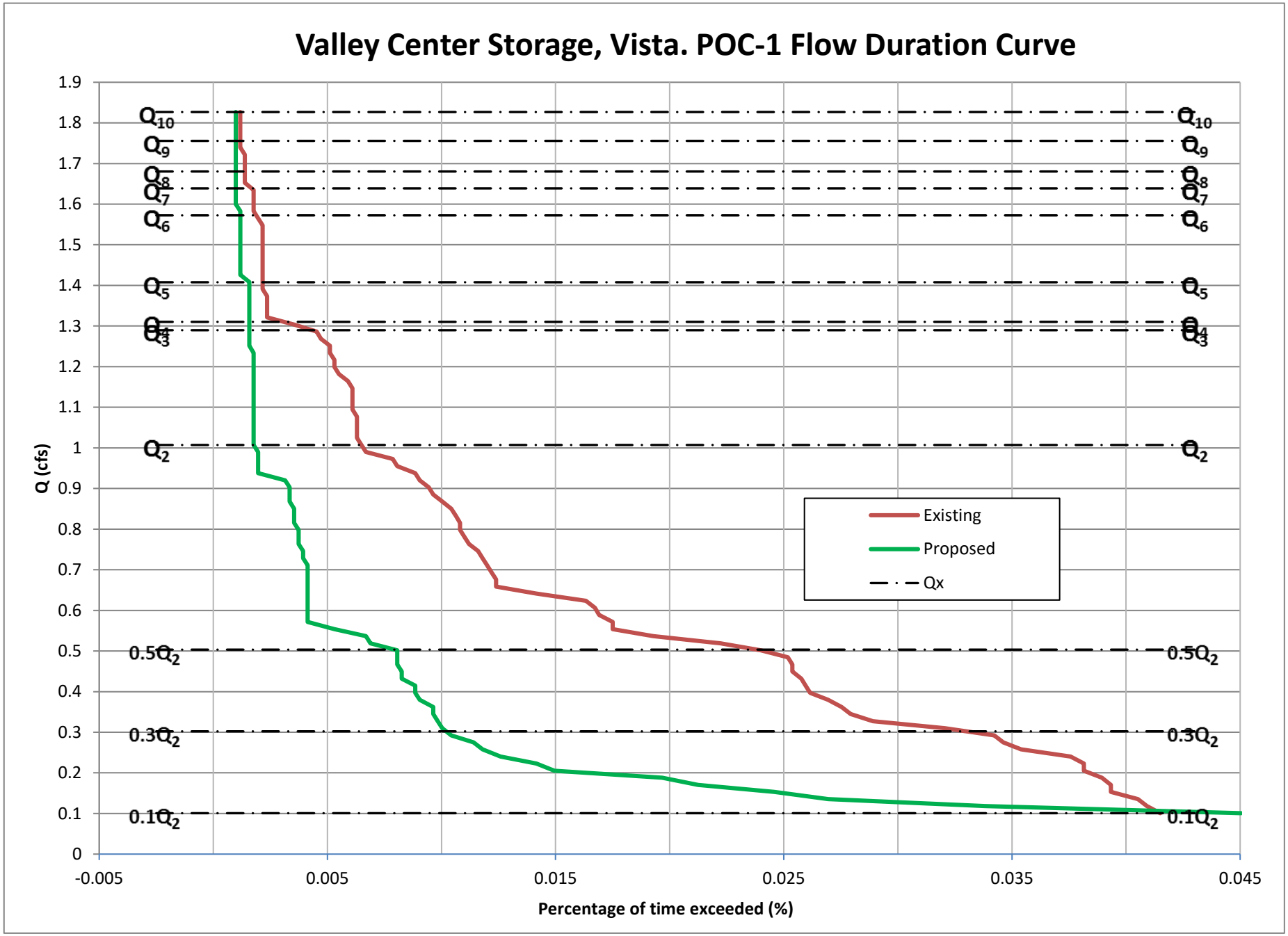
Consequently, the design passes the hydromodification test.

It is important to note that the flow duration curve can be expressed in the "x" axis as percentage of time, hours per year, total number of hours, or any other similar time variable. As those variables only differ by a multiplying constant, their plot in logarithmic scale is going to look exactly the same, and compliance can be observed regardless of the variable selected. However, in order to satisfy the County of San Diego HMP requirements, % of time exceeded is the variable of choice in the flow duration curve. The selection of a logarithmic scale in lieu of the normal scale is preferred, as differences between the pre-development and post-development curves can be seen more clearly in the entire range of analysis. Both graphics are presented just to prove the difference.

In terms of the "y" axis, the peak flow value is the variable of choice. As an additional analysis performed by REC, not only the range of analysis is clearly depicted (10% of Q_2 to Q_{10}) but also all intermediate flows are shown (Q_2, Q_3, Q_4, Q_5, Q_6, Q_7, Q_8 and Q_9) in order to demonstrate compliance at any range $Q_x - Q_{x+1}$. It must be pointed out that one of the limitations of both the SWMM and SDHM models is that the intermediate analysis is not performed (to obtain Q_i from i = 2 to 10). REC performed the analysis using the Cunnane Plotting position Method (the preferred method in the HMP permit) from the "n" largest independent peak flows obtained from the continuous time series.

The largest "n" peak flows are attached in this appendix, as well as the values of Q_i with a return period "i", from i=2 to 10. The Q_i values are also added into the flow-duration plot.


Valley Center Storage, Vista. POC 1- Flow Duration Curve
Q (cfs)
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Q10
Q9
Q8
Q7
Q6
Q5
Q4
Q3
Q2
0.5Q2
0.3Q2
0.1Q2
Existing
Proposed
Qx
0.0005
0.005
0.05
Percentage of time exceeded (%)


Valley Center Storage, Vista. POC-1 Flow Duration Curve
Q (cfs)
Percentage of time exceeded (%)
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-0.005
0.005
0.015
0.025
0.035
0.045
Q10
Q9
Q8
Q7
Q6
Q5
Q4
Q3
Q2
0.5Q2
0.3Q2
0.1Q2
Existing
Proposed
Qx

Flow Duration Curve Data for Valley Center Storage - POC-1 , SDC, CA

Q2 =	1.01	cfs	Fraction	10 %
Q10 =	1.83	cfs		
Step =	0.0174	cfs		
Count =	508439	hours		
	58.00	years		

	Existing Condition			Detention Optimized			Pass or
Interval	Q (cfs)	Hours > Q	% time	Hours>Q	% time	Post/Pre	Fail?
1	0.101	211	4.15E-02	229	4.50E-02	109%	Pass
2	0.118	208	4.09E-02	172	3.38E-02	83%	Pass
3	0.136	206	4.05E-02	137	2.69E-02	67%	Pass
4	0.153	200	3.93E-02	125	2.46E-02	63%	Pass
5	0.170	200	3.93E-02	108	2.12E-02	54%	Pass
6	0.188	198	3.89E-02	100	1.97E-02	51%	Pass
7	0.205	194	3.82E-02	76	1.49E-02	39%	Pass
8	0.223	194	3.82E-02	72	1.42E-02	37%	Pass
9	0.240	191	3.76E-02	64	1.26E-02	34%	Pass
10	0.258	180	3.54E-02	60	1.18E-02	33%	Pass
11	0.275	176	3.46E-02	58	1.14E-02	33%	Pass
12	0.292	174	3.42E-02	53	1.04E-02	30%	Pass
13	0.310	163	3.21E-02	51	1.00E-02	31%	Pass
14	0.327	147	2.89E-02	50	9.83E-03	34%	Pass
15	0.345	142	2.79E-02	49	9.64E-03	35%	Pass
16	0.362	140	2.75E-02	49	9.64E-03	35%	Pass
17	0.380	137	2.69E-02	46	9.05E-03	34%	Pass
18	0.397	133	2.62E-02	45	8.85E-03	34%	Pass
19	0.415	132	2.60E-02	45	8.85E-03	34%	Pass
20	0.432	131	2.58E-02	42	8.26E-03	32%	Pass
21	0.449	129	2.54E-02	42	8.26E-03	33%	Pass
22	0.467	129	2.54E-02	41	8.06E-03	32%	Pass
23	0.484	128	2.52E-02	41	8.06E-03	32%	Pass
24	0.502	122	2.40E-02	41	8.06E-03	34%	Pass
25	0.519	113	2.22E-02	35	6.88E-03	31%	Pass
26	0.537	98	1.93E-02	34	6.69E-03	35%	Pass
27	0.554	89	1.75E-02	27	5.31E-03	30%	Pass
28	0.571	89	1.75E-02	21	4.13E-03	24%	Pass
29	0.589	86	1.69E-02	21	4.13E-03	24%	Pass
30	0.606	85	1.67E-02	21	4.13E-03	25%	Pass
31	0.624	83	1.63E-02	21	4.13E-03	25%	Pass
32	0.641	72	1.42E-02	21	4.13E-03	29%	Pass
33	0.659	63	1.24E-02	21	4.13E-03	33%	Pass
34	0.676	63	1.24E-02	21	4.13E-03	33%	Pass
35	0.693	62	1.22E-02	21	4.13E-03	34%	Pass
36	0.711	61	1.20E-02	21	4.13E-03	34%	Pass

Interval	Existing Condition			Detention Optimized			Pass or Fail?
	Q (cfs)	Hours > Q	% time	Hours>Q	% time	Post/Pre	
37	0.728	60	1.18E-02	20	3.93E-03	33%	Pass
38	0.746	59	1.16E-02	20	3.93E-03	34%	Pass
39	0.763	57	1.12E-02	19	3.74E-03	33%	Pass
40	0.781	56	1.10E-02	19	3.74E-03	34%	Pass
41	0.798	55	1.08E-02	19	3.74E-03	35%	Pass
42	0.816	55	1.08E-02	18	3.54E-03	33%	Pass
43	0.833	54	1.06E-02	18	3.54E-03	33%	Pass
44	0.850	53	1.04E-02	18	3.54E-03	34%	Pass
45	0.868	51	1.00E-02	17	3.34E-03	33%	Pass
46	0.885	49	9.64E-03	17	3.34E-03	35%	Pass
47	0.903	48	9.44E-03	17	3.34E-03	35%	Pass
48	0.920	46	9.05E-03	16	3.15E-03	35%	Pass
49	0.938	45	8.85E-03	10	1.97E-03	22%	Pass
50	0.955	41	8.06E-03	10	1.97E-03	24%	Pass
51	0.972	40	7.87E-03	10	1.97E-03	25%	Pass
52	0.990	34	6.69E-03	10	1.97E-03	29%	Pass
53	1.007	33	6.49E-03	9	1.77E-03	27%	Pass
54	1.025	32	6.29E-03	9	1.77E-03	28%	Pass
55	1.042	32	6.29E-03	9	1.77E-03	28%	Pass
56	1.060	32	6.29E-03	9	1.77E-03	28%	Pass
57	1.077	32	6.29E-03	9	1.77E-03	28%	Pass
58	1.094	31	6.10E-03	9	1.77E-03	29%	Pass
59	1.112	31	6.10E-03	9	1.77E-03	29%	Pass
60	1.129	31	6.10E-03	9	1.77E-03	29%	Pass
61	1.147	31	6.10E-03	9	1.77E-03	29%	Pass
62	1.164	30	5.90E-03	9	1.77E-03	30%	Pass
63	1.182	28	5.51E-03	9	1.77E-03	32%	Pass
64	1.199	27	5.31E-03	9	1.77E-03	33%	Pass
65	1.217	27	5.31E-03	9	1.77E-03	33%	Pass
66	1.234	26	5.11E-03	9	1.77E-03	35%	Pass
67	1.251	26	5.11E-03	8	1.57E-03	31%	Pass
68	1.269	24	4.72E-03	8	1.57E-03	33%	Pass
69	1.286	23	4.52E-03	8	1.57E-03	35%	Pass
70	1.304	18	3.54E-03	8	1.57E-03	44%	Pass
71	1.321	12	2.36E-03	8	1.57E-03	67%	Pass
72	1.339	12	2.36E-03	8	1.57E-03	67%	Pass
73	1.356	12	2.36E-03	8	1.57E-03	67%	Pass
74	1.373	12	2.36E-03	8	1.57E-03	67%	Pass
75	1.391	11	2.16E-03	8	1.57E-03	73%	Pass
76	1.408	11	2.16E-03	8	1.57E-03	73%	Pass
77	1.426	11	2.16E-03	6	1.18E-03	55%	Pass
78	1.443	11	2.16E-03	6	1.18E-03	55%	Pass
79	1.461	11	2.16E-03	6	1.18E-03	55%	Pass
80	1.478	11	2.16E-03	6	1.18E-03	55%	Pass
81	1.496	11	2.16E-03	6	1.18E-03	55%	Pass

Interval	Existing Condition			Detention Optimized			Pass or
	Q (cfs)	Hours > Q	% time	Hours>Q	% time	Post/Pre	Fail?
82	1.513	11	2.16E-03	6	1.18E-03	55%	Pass
83	1.530	11	2.16E-03	6	1.18E-03	55%	Pass
84	1.548	11	2.16E-03	6	1.18E-03	55%	Pass
85	1.565	10	1.97E-03	6	1.18E-03	60%	Pass
86	1.583	9	1.77E-03	6	1.18E-03	67%	Pass
87	1.600	9	1.77E-03	5	9.83E-04	56%	Pass
88	1.618	9	1.77E-03	5	9.83E-04	56%	Pass
89	1.635	9	1.77E-03	5	9.83E-04	56%	Pass
90	1.652	7	1.38E-03	5	9.83E-04	71%	Pass
91	1.670	7	1.38E-03	5	9.83E-04	71%	Pass
92	1.687	7	1.38E-03	5	9.83E-04	71%	Pass
93	1.705	7	1.38E-03	5	9.83E-04	71%	Pass
94	1.722	7	1.38E-03	5	9.83E-04	71%	Pass
95	1.740	6	1.18E-03	5	9.83E-04	83%	Pass
96	1.757	6	1.18E-03	5	9.83E-04	83%	Pass
97	1.774	6	1.18E-03	5	9.83E-04	83%	Pass
98	1.792	6	1.18E-03	5	9.83E-04	83%	Pass
99	1.809	6	1.18E-03	5	9.83E-04	83%	Pass
100	1.827	6	1.18E-03	5	9.83E-04	83%	Pass

Peak Flows calculated with Cunnane Plotting Position

Return Period (years)	Pre-dev. Q (cfs)	Post-Dev. Q (cfs)	Reduction (cfs)
10	1.83	0.89	0.93
9	1.76	0.78	0.97
8	1.68	0.62	1.06
7	1.64	0.49	1.15
6	1.57	0.43	1.14
5	1.41	0.37	1.03
4	1.31	0.31	1.00
3	1.29	0.28	1.01
2	1.01	0.23	0.78

ATTACHMENT 3

List of the "n" Largest Peaks: Pre & Post-Developed Conditions

Basic Probabilistic Equation:

R = 1/P R: Return period (years).

P: Probability of a flow to be equaled or exceeded any given year (dimensionless).

Cunnane Equation:

$$P = \frac{i-0.4}{n+0.2}$$

Weibull Equation:

$$P = \frac{i}{n+1}$$

i: Position of the peak whose probability is desired (sorted from large to small)

n: number of years analyzed.

Explanation of Variables for the Tables in this Attachment

Peak: Refers to the peak flow at the date given, taken from the continuous simulation hourly results of the n year analyzed.

Posit: If all peaks are sorted from large to small, the position of the peak in a sorting analysis is included under the variable Posit.

Date: Date of the occurrence of the peak at the outlet from the continuous simulation

Note: all peaks are not annual maxima; instead they are defined as event maxima, with a threshold to separate peaks of at least 12 hours. In other words, any peak P in a time series is defined as a value where dP/dt = 0, and the peak is the largest value in 25 hours (12 hours before, the hour of occurrence and 12 hours after the occurrence, so it is in essence a daily peak).

List of Peak events and Determination of Q2 and Q10 (Pre-Development)
Valley Center Storage - POC-1

T (Year)	Cunnane (cfs)	Weibull (cfs)	Peaks (cfs)	Date	Posit	Period of Return (Years)	
10	**1.83**	**1.86**				**Weibull**	**Cunnane**
9	**1.76**	**1.79**	0.616	12/30/1951	57	1.02	1.01
8	**1.68**	**1.71**	0.629	11/15/1952	56	1.04	1.03
7	**1.64**	**1.64**	0.630	12/17/1957	55	1.05	1.05
6	**1.57**	**1.59**	0.638	2/20/1980	54	1.07	1.07
5	**1.41**	**1.45**	0.641	3/16/1958	53	1.09	1.09
4	**1.31**	**1.31**	0.641	2/18/1980	52	1.12	1.11
3	**1.29**	**1.29**	0.644	3/21/1979	51	1.14	1.13
2	**1.01**	**1.01**	0.653	12/4/1974	50	1.16	1.15
			0.654	4/28/1951	49	1.18	1.18
			0.685	1/18/1952	48	1.21	1.20
			0.703	10/18/2005	47	1.23	1.23
			0.713	1/14/1993	46	1.26	1.25
			0.737	4/3/1958	45	1.29	1.28
			0.747	11/22/1965	44	1.32	1.31
			0.770	3/5/1995	43	1.35	1.34
			0.816	4/14/2003	42	1.38	1.38
			0.843	11/21/1963	41	1.41	1.41
			0.865	3/1/1991	40	1.45	1.44
			0.866	11/25/1985	39	1.49	1.48
			0.869	1/7/1993	38	1.53	1.52
			0.904	3/27/1991	37	1.57	1.56
			0.943	1/3/1977	36	1.61	1.61
			0.943	1/9/1998	35	1.66	1.65
			0.945	12/22/1982	34	1.71	1.70
			0.969	3/8/1975	33	1.76	1.75
			0.974	3/1/1983	32	1.81	1.81
			0.977	2/27/1983	31	1.87	1.87
			0.983	1/23/1969	30	1.93	1.93
			1.007	10/18/2004	29	2.00	2.00
			1.017	12/19/1984	28	2.07	2.07
			1.083	2/3/1998	27	2.15	2.15
			1.149	2/13/1992	26	2.23	2.23
			1.180	1/11/2005	25	2.32	2.33
			1.195	2/16/1980	24	2.42	2.42
			1.259	11/8/2002	23	2.52	2.53
			1.268	12/29/2004	22	2.64	2.65
			1.279	9/10/1976	21	2.76	2.78
			1.287	3/17/1982	20	2.90	2.92
			1.292	2/14/1980	19	3.05	3.08
			1.293	11/30/1982	18	3.22	3.25
			1.293	11/9/2002	17	3.41	3.45
			1.295	2/8/1993	16	3.63	3.67
			1.310	1/16/1978	15	3.87	3.92
			1.311	12/5/1966	14	4.14	4.21
			1.314	12/6/1966	13	4.46	4.54
			1.382	2/15/1986	12	4.83	4.93
			1.554	12/25/1983	11	5.27	5.40
			1.568	1/9/2005	10	5.80	5.96
			1.635	1/11/1980	9	6.44	6.65
			1.644	1/29/1980	8	7.25	7.53
			1.732	2/14/1998	7	8.29	8.67
			1.842	1/4/1995	6	9.67	10.21
			1.965	3/4/1978	5	11.60	12.43
			2.095	10/20/2004	4	14.50	15.89
			2.276	2/4/1994	3	19.33	22.00
			2.476	2/10/1963	2	29.00	35.75
			3.004	2/1/1993	1	58.00	95.33

Note:
Cunnane is the preferred method by the HMP permit.

List of Peak events and Determination of Q2 and Q10 (Post-Development)
Valley Center Storage - POC-1

T (Year)	Cunnane (cfs)	Weibull (cfs)
10	**0.89**	**0.92**
9	**0.78**	**0.83**
8	**0.62**	**0.69**
7	**0.49**	**0.51**
6	**0.43**	**0.44**
5	**0.37**	**0.38**
4	**0.31**	**0.31**
3	**0.28**	**0.28**
2	**0.23**	**0.23**

Note:
Cunnane is the preferred method by the HMP permit.

Peaks (cfs)	Date	Posit	Period of Return (Years)	
			Weibull	Cunnane
0.138	1/18/1952	57	1.02	1.01
0.138	12/17/1957	56	1.04	1.03
0.14	3/2/1980	55	1.05	1.05
0.143	11/22/1965	54	1.07	1.07
0.145	12/9/1982	53	1.09	1.09
0.145	11/25/1985	52	1.12	1.11
0.148	1/14/1993	51	1.14	1.13
0.152	4/3/1958	50	1.16	1.15
0.159	11/21/1963	49	1.18	1.18
0.161	1/3/1977	48	1.21	1.20
0.162	4/14/2003	47	1.23	1.23
0.163	2/11/1962	46	1.26	1.25
0.168	3/27/1991	45	1.29	1.28
0.17	1/7/1993	44	1.32	1.31
0.179	3/8/1975	43	1.35	1.34
0.179	2/27/1983	42	1.38	1.38
0.18	1/9/1998	41	1.41	1.41
0.189	10/18/2004	40	1.45	1.44
0.191	12/19/1984	39	1.49	1.48
0.192	3/2/1983	38	1.53	1.52
0.193	1/29/1980	37	1.57	1.56
0.195	2/14/1980	36	1.61	1.61
0.196	6/1/1996	35	1.66	1.65
0.201	2/18/1980	34	1.71	1.70
0.201	2/3/1998	33	1.76	1.75
0.217	2/13/1992	32	1.81	1.81
0.224	3/1/1983	31	1.87	1.87
0.227	11/8/2002	30	1.93	1.93
0.23	9/10/1976	29	2.00	2.00
0.231	3/17/1982	28	2.07	2.07
0.232	11/30/1982	27	2.15	2.15
0.233	11/9/2002	26	2.23	2.23
0.233	12/29/2004	25	2.32	2.33
0.247	2/8/1993	24	2.42	2.42
0.256	2/16/1980	23	2.52	2.53
0.266	1/11/2005	22	2.64	2.65
0.274	1/9/2005	21	2.76	2.78
0.281	1/16/1978	20	2.90	2.92
0.282	1/11/1980	19	3.05	3.08
0.285	1/29/1980	18	3.22	3.25
0.289	12/25/1983	17	3.41	3.45
0.293	2/15/1986	16	3.63	3.67
0.301	2/14/1998	15	3.87	3.92
0.318	1/4/1995	14	4.14	4.21
0.364	10/20/2004	13	4.46	4.54
0.371	3/4/1978	12	4.83	4.93
0.391	2/4/1994	11	5.27	5.40
0.429	2/10/1963	10	5.80	5.96
0.458	3/1/1991	9	6.44	6.65
0.536	2/1/1993	8	7.25	7.53
0.748	2/11/1963	7	8.29	8.67
0.915	1/23/1969	6	9.67	10.21
0.931	2/19/1980	5	11.60	12.43
1.425	2/20/1980	4	14.50	15.89
1.597	3/5/1995	3	19.33	22.00
1.987	12/5/1966	2	29.00	35.75
2.001	12/6/1966	1	58.00	95.33

ATTACHMENT 4

Area vs Elevation & Discharge vs Elevation

GRAVEL LAYER Qinf (cfs): 0

Elevation	h (ft)	Area (ft)	V (cu-ft)	V (ac-ft)	Q (cfs)	Δt (hr)
1315.00	0	22884	0.0	0	0	
1315.10	0.1	22884	2288.4	0.05253	0.051	24.93
1315.20	0.2	22884	4576.8	0.10507	0.076	10.01
1315.30	0.3	22884	6865.2	0.15760	0.095	7.43
1315.40	0.4	22884	9153.6	0.21014	0.111	6.17
1315.50	0.5	22884	11442.0	0.26267	0.124	5.41
1315.60	0.6	22884	13730.4	0.31521	0.136	4.89
1315.70	0.7	22884	16018.8	0.36774	0.148	4.48
1315.80	0.8	22884	18307.2	0.42028	0.158	4.15
1315.90	0.9	22884	20595.6	0.47281	0.168	3.90
1316.00	1	22884	22884.0	0.52534	0.177	3.69
1316.10	1.1	22884	25172.4	0.57788	0.186	3.50
1316.20	1.2	22884	27460.8	0.63041	0.194	3.35
1316.30	1.3	22884	29749.2	0.68295	0.203	3.20
1316.40	1.4	22884	32037.6	0.73548	0.21	3.08
1316.50	1.5	22884	34326.0	0.78802	0.218	2.97
1316.53	1.525	314	34333.9	0.78820	1.396	
1316.55	1.55	1257	34353.5	0.78865	3.549	
1316.58	1.575	2827	34404.5	0.78982	6.336	
1316.60	1.6	5027	34502.7	0.79207	9.636	

Note: area of gravel (0 ft to 1.5 ft) has already being reduced by porosity.

Drawdown:

TOT (hr)	**91.2**

INFILTRATION BASIN (BMP-1 in SWMM) Qinf (cfs): 0.0376

Elevation	h (ft)	Area (ft)	V (cu-ft)	V (ac-ft)	Q (cfs)	Δt (hr)
1298.50	0.00	2250	0	0.00000		
1299.50	1.00	2250	2250	0.05165		16.61
1301.00	2.50	2250	5625	0.12913		24.91
1301.00	2.501	5625	5629	0.12922		0.03
1301.08	2.583	5688	6095	0.13991		3.44
1301.17	2.667	5753	6571	0.15086		3.52
1301.25	2.750	5815	7053	0.16192		3.56
1301.33	2.833	5880	7541	0.17311		3.60
1301.42	2.917	5948	8033	0.18442		3.64
1301.50	3.000	6014	8532	0.19587		3.68
1301.58	3.083	6082	9036	0.20744		3.72
1301.67	3.167	6151	9546	0.21914		3.76
1301.75	3.250	6220	10061	0.23097	0	3.80
1301.83	3.333	6291	10582	0.24294	0.021	3.01
1301.92	3.417	6363	11110	0.25504	0.038	2.18
1302.00	3.500	6435	11643	0.26728	0.049	1.83
1302.04	3.542	6470	11912	0.27346	0.053	0.84
1302.08	3.583	6509	12182	0.27966	0.058	0.81
1302.17	3.667	6583	12728	0.29219	0.065	1.53
1302.25	3.750	6658	13279	0.30485	0.072	1.44
1302.33	3.833	6735	13837	0.31766	0.079	1.37
1302.42	3.917	6812	14402	0.33062	0.084	1.32
1302.50	4.000	6890	14973	0.34373	1.283	0.22
1302.58	4.083	6969	15550	0.35698	3.470	0.07
1302.67	4.167	7049	16134	0.37039	6.300	0.03
1302.75	4.250	7130	16725	0.38395	9.650	0.02
1302.83	4.333	7211	17323	0.39767	13.45	0.01
1302.92	4.417	7294	17927	0.41155	17.65	0.01
1303.00	4.500	7378	18538	0.42558	22.22	0.01
1303.08	4.583	7462	19157	0.43978	27.12	0.01
1303.17	4.667	7548	19782	0.45413	32.34	0.01
1303.25	4.750	7634	20415	0.46866	37.86	0.01
1303.33	4.833	7722	21054	0.48334	43.66	0.00
1303.42	4.917	7810	21702	0.49820	49.74	0.00
1303.50	5.000	7899	22356	0.51323	56.07	0.00
1303.58	5.083	7989	23018	0.52843	62.65	0.00
1303.67	5.167	8080	23688	0.54380	69.46	0.00
1303.75	5.250	8172	24365	0.55934	76.51	0.00
1303.83	5.333	8265	25050	0.57506	83.79	0.00
1303.92	5.417	8359	25742	0.59097	91.28	0.00
1304.00	5.500	8454	26443	0.60705	98.98	0.00

Drawdown 0'-3.25':	
TOT (hr)	**74.3**

Drawdown:	
TOT (hr)	**89.0**

Outlet structure for Discharge of Gravel Pavement

Discharge vs Elevation Table

Low orifice:	**0.4375**	"	Lower slot			Emergency Weir	
Number:	35		Invert:	7.00	ft	Invert:	1.500 ft
Cg-low:	0.61		B	0.00	ft	B:	96 ft
			h	0.250	ft		
Middle orifice:	**1.25**	"	Upper slot				
number of orif:	0		Invert:	0.000	ft	Note: for explanations on the variables, see below table.	
Cg-middle:	0.61		B:	0.00	ft		
invert elev:	2.833	ft	h	0.000	ft		

h (ft)	H/D-low -	H/D-mid -	Qlow-orif (cfs)	Qlow-weir (cfs)	Qtot-low (cfs)	Qmid-orif (cfs)	Qmid-weir (cfs)	Qtot-med (cfs)	Qslot-low (cfs)	Qslot-upp (cfs)	Qemer (cfs)	Qtot (cfs)
0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.10	2.743	0.000	0.051	0.062	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.051
0.20	5.486	0.000	0.076	0.763	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.076
0.30	8.229	0.000	0.095	0.949	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.095
0.40	10.971	0.000	0.111	1.105	0.111	0.000	0.000	0.000	0.000	0.000	0.000	0.111
0.50	13.714	0.000	0.124	1.241	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.124
0.60	16.457	0.000	0.136	1.364	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.136
0.70	19.200	0.000	0.148	1.477	0.148	0.000	0.000	0.000	0.000	0.000	0.000	0.148
0.80	21.943	0.000	0.158	1.581	0.158	0.000	0.000	0.000	0.000	0.000	0.000	0.158
0.90	24.686	0.000	0.168	1.680	0.168	0.000	0.000	0.000	0.000	0.000	0.000	0.168
1.00	27.429	0.000	0.177	1.772	0.177	0.000	0.000	0.000	0.000	0.000	0.000	0.177
1.10	30.171	0.000	0.186	1.860	0.186	0.000	0.000	0.000	0.000	0.000	0.000	0.186
1.20	32.914	0.000	0.194	1.944	0.194	0.000	0.000	0.000	0.000	0.000	0.000	0.194
1.30	35.657	0.000	0.203	2.025	0.203	0.000	0.000	0.000	0.000	0.000	0.000	0.203
1.40	38.400	0.000	0.210	2.103	0.210	0.000	0.000	0.000	0.000	0.000	0.000	0.210
1.50	41.143	0.000	0.218	2.177	0.218	0.000	0.000	0.000	0.000	0.000	0.000	0.218
1.525	41.829	0.000	0.220	2.196	0.220	0.000	0.000	0.000	0.000	0.000	1.176	1.396
1.550	42.514	0.000	0.221	2.214	0.221	0.000	0.000	0.000	0.000	0.000	3.327	3.549
1.575	43.200	0.000	0.223	2.232	0.223	0.000	0.000	0.000	0.000	0.000	6.113	6.336
1.600	43.886	0.000	0.225	2.250	0.225	0.000	0.000	0.000	0.000	0.000	9.411	9.636
1.625	44.571	0.000	0.227	2.267	0.227	0.000	0.000	0.000	0.000	0.000	13.152	13.379
1.650	45.257	0.000	0.228	2.285	0.228	0.000	0.000	0.000	0.000	0.000	17.289	17.517
1.675	45.943	0.000	0.230	2.302	0.230	0.000	0.000	0.000	0.000	0.000	21.787	22.017

Note: There will be 35 - $^{7}/_{16}$" orifices all over the underground pavement, tied to French Drains
Also, there will be 16 - 8' perimeter grated inlets that will overflow over the pipe system (L = 128 ft)

Low oriffice: It is assumed at elevation 0.00. All elevations are measured from the invert of the low orifice. The diameter is given here.
Number: refers to the proposed number of low orifices (in this case = 35,as there are 35 horizontal French drains draining to boxes)
Cg low: discharge coefficient for low oriffice (Assumed Cg = 0.61)

Middle oriffice: diameter, number and discharge coefficient are given. If number = 0, it means there are no middle oriffices and this info is irrelevant.
Invert elevation: invert of oriffice from invert of low oriffice.

Lower slot: invert (ft), width (B, ft) and height (h, ft) are given. If either B or h = 0, then this information is irrelevant for calculations.

Upper slot: invert (ft), width (B, ft) and height (h, ft) are given. If either B or h = 0, then this information is irrelevant for calculations.

Emergency weir: B: typically equal to the perimeter of the overflow riser or width of rectangular weir at the top. Invert, as always, measured from invert of the low orifice. Note: in this case B = 128 because there are 16 risers, 8 ft in perimeter each, at same elevation (grated inlets)

NOTE: in this case, the invert of all low flow orifices is equal to the bottom of the gravel layer as there is no 3" requirement for gravel pavement.

Outlet structure for Discharge of BMP-1 (INFILTRATION BASIN)

Discharge vs Elevation Table

Low orifice:	1	"	Lower slot			Emergency Weir	
Number:	0		Invert:	3.50	ft	Invert:	3.917 ft
Cg-low:	0.61		B	0.000	ft	B:	16 ft
			h	0.083	ft		
Middle orifice:	1	"	Upper slot				
number of orif:	4		Invert:	0.000	ft		
Cg-middle:	0.61		B:	0.00	ft		
invert elev:	3.250	ft	h	0.000	ft		

h (ft)	H/D-low -	H/D-mid -	Qlow-orif (cfs)	Qlow-weir (cfs)	Qtot-low (cfs)	Qmid-orif (cfs)	Qmid-weir (cfs)	Qtot-med (cfs)	Qslot-low (cfs)	Qslot-upp (cfs)	Qemer (cfs)	Qtot (cfs)
0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.33	16.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.42	17.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.50	18.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.58	19.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.67	20.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.75	21.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.83	22.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
1.92	23.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.00	24.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.08	25.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.17	26.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.25	27.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.33	28.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.42	29.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.50	30.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.58	31.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.67	32.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.75	33.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.83	34.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.92	35.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
2.999	35.988	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.0000
3.00	36.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.000
3.08	37.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.000
3.17	38.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.000
3.25	39.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000	0.000
3.33	40.000	1.000	0.000	0.000	0.000	0.022	0.02	0.021	0.000	0.000	0.000	0.021
3.42	41.000	2.000	0.000	0.000	0.000	0.038	0.05	0.038	0.000	0.000	0.000	0.038
3.50	42.000	3.000	0.000	0.000	0.000	0.049	0	0.049	0.000	0.000	0.000	0.049
3.54	42.500	3.500	0.000	0.000	0.000	0.053	0	0.053	0.000	0.000	0.000	0.053
3.58	43.000	4.000	0.000	0.000	0.000	0.058	0	0.058	0.000	0.000	0.000	0.058
3.67	44.000	5.000	0.000	0.000	0.000	0.065	0	0.065	0.000	0.000	0.000	0.065
3.75	45.000	6.000	0.000	0.000	0.000	0.072	1	0.072	0.000	0.000	0.000	0.072
3.83	46.000	7.000	0.000	0.000	0.000	0.079	4	0.079	0.000	0.000	0.000	0.079
3.92	47.000	8.000	0.000	0.000	0.000	0.084	9	0.084	0.000	0.000	0.000	0.084
4.00	48.000	9.000	0.000	0.000	0.000	0.090	18	0.090	0.000	0.000	1.193	1.283
4.08	49.000	10.000	0.000	0.000	0.000	0.095	34	0.095	0.000	0.000	3.375	3.470
4.17	50.000	11.000	0.000	0.000	0.000	0.100	59	0.100	0.000	0.000	6.200	6.300
4.25	51.000	12.000	0.000	0.000	0.000	0.105	97	0.105	0.000	0.000	9.546	9.650
4.33	52.000	13.000	0.000	0.000	0.000	0.109	152	0.109	0.000	0.000	13.340	13.449
4.42	53.000	14.000	0.000	0.000	0.000	0.113	230	0.113	0.000	0.000	17.536	17.650
4.50	54.000	15.000	0.000	0.000	0.000	0.117	335	0.117	0.000	0.000	22.098	22.216
4.58	55.000	16.000	0.000	0.000	0.000	0.121	477	0.121	0.000	0.000	26.999	27.120
4.67	56.000	17.000	0.000	0.000	0.000	0.125	661	0.125	0.000	0.000	32.216	32.341
4.75	57.000	18.000	0.000	0.000	0.000	0.129	899	0.129	0.000	0.000	37.732	37.861
4.83	58.000	19.000	0.000	0.000	0.000	0.133	1200	0.133	0.000	0.000	43.531	43.664
4.92	59.000	20.000	0.000	0.000	0.000	0.136	1577	0.136	0.000	0.000	49.600	49.736
5.00	60.000	21.000	0.000	0.000	0.000	0.140	2042	0.140	0.000	0.000	55.927	56.067
5.08	61.000	22.000	0.000	0.000	0.000	0.143	2611	0.143	0.000	0.000	62.503	62.646
5.17	62.000	23.000	0.000	0.000	0.000	0.146	3300	0.146	0.000	0.000	69.318	69.464
5.25	63.000	24.000	0.000	0.000	0.000	0.149	4126	0.149	0.000	0.000	76.364	76.514
5.33	64.000	25.000	0.000	0.000	0.000	0.153	5110	0.153	0.000	0.000	83.634	83.787
5.42	65.000	26.000	0.000	0.000	0.000	0.156	6273	0.156	0.000	0.000	91.121	91.277
5.50	66.000	27.000	0.000	0.000	0.000	0.159	7638	0.159	0.000	0.000	98.819	98.978

DISCHARGE EQUATIONS

1) Weir:

$$Q_W = C_W \cdot L \cdot H^{3/2} \quad (1)$$

2) Slot:

As an orifice: $$Q_s = B_s \cdot h_s \cdot c_g \cdot \sqrt{2g\left(H - \frac{h_s}{2}\right)} \quad (2.a)$$

As a weir: $$Q_s = C_W \cdot B_s \cdot H^{3/2} \quad (2.b)$$

For H > h_s slot works as weir until orifice equation provides a smaller discharge. The elevation such that equation (2.a) = equation (2.b) is the elevation at which the behavior changes from weir to orifice.

3) Vertical Orifices

As an orifice: $$Q_o = 0.25 \cdot \pi D^2 \cdot c_g \cdot \sqrt{2g\left(H - \frac{D}{2}\right)} \quad (3.a)$$

As a weir: Critical depth and geometric family of circular sector must be solved to determined Q as a function of H:

$$\frac{Q_O^2}{g} = \frac{A_{cr}^3}{T_{cr}}; \quad H = y_{cr} + \frac{A_{cr}}{2 \cdot T_{cr}}; \; T_{cr} = 2\sqrt{y_{cr}(D - y_{cr})}\,; \quad A_{cr} = \frac{D^2}{8}[\alpha_{cr} - sin(\alpha_{cr})]\,;$$

$$y_{cr} = \frac{D}{2}[1 - sin(0.5 \cdot \alpha_{cr})] \quad \text{(3.b.1, 3.b.2, 3.b.3, 3.b.4 and 3.b.5)}$$

There is a value of H (approximately H = 110% D) from which orifices no longer work as weirs as critical depth is not possible at the entrance of the orifice. This value of H is obtained equaling the discharge using critical equations and equations (3.b).

A mathematical model is prepared with the previous equations depending on the type of discharge.

The following are the variables used above:

Q_W, Q_s, Q_O = Discharge of weir, slot or orifice (cfs)

C_W, c_g : Coefficients of discharge of weir (typically 3.1) and orifice (0.61 to 0.62)

L, B_s, D, h_s : Length of weir, width of slot, diameter of orifice and height of slot, respectively; (ft)

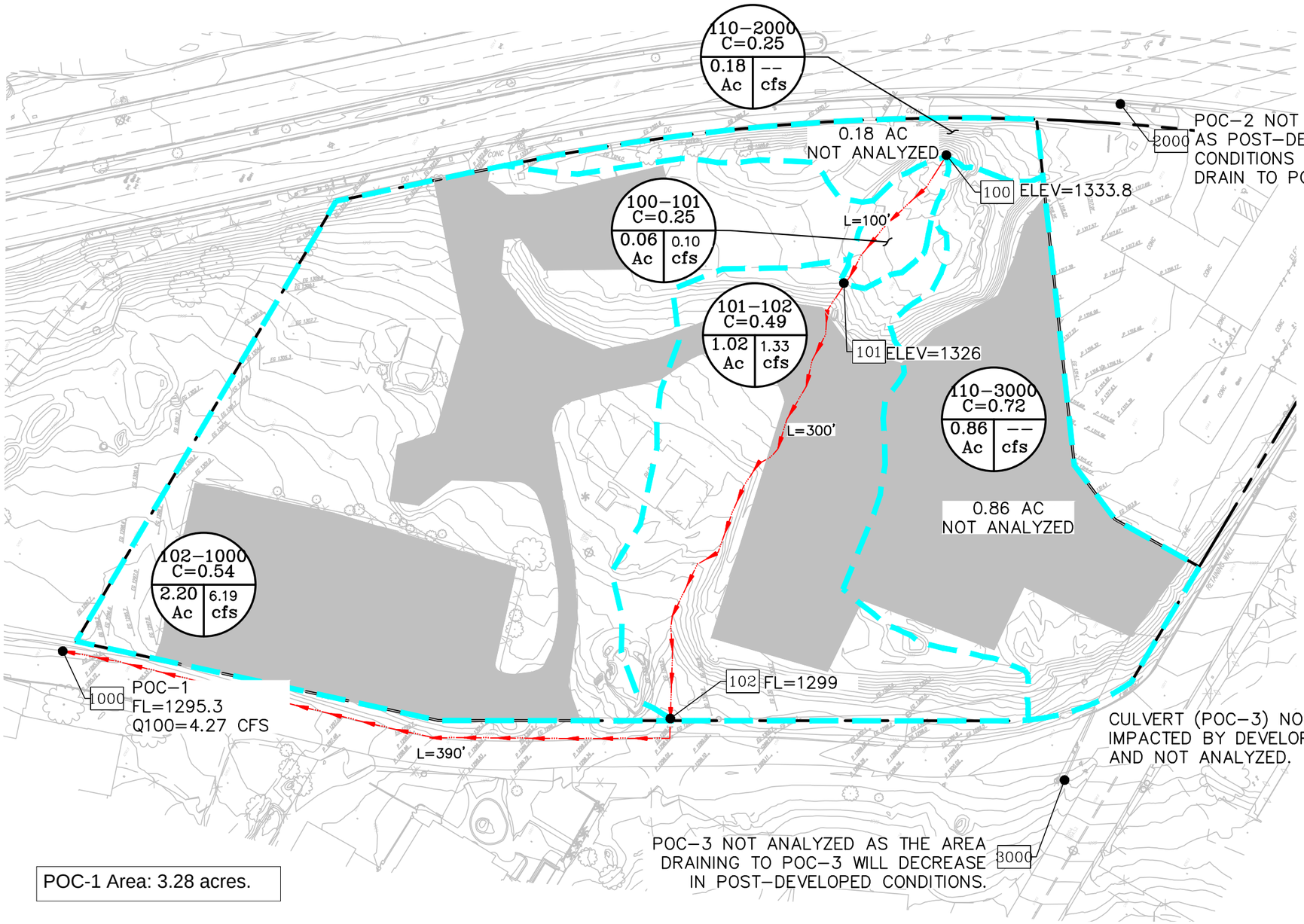
H: Level of water in the pond over the invert of slot, weir or orifice (ft)

A_{cr}, T_{cr}, y_{cr}, α_{cr}: Critical variables for circular sector: area (sq-ft), top width (ft), critical depth (ft), and angle to the center, respectively.

ATTACHMENT 5

Pre & Post-Developed Maps, Project Plan and Detention

Section Sketches



LEGEND

BASIN LIMITS

PROJECT BOUNDARY

FLOW–LINE

IMPERVIOUS AREA

NOTE: TYPE B SOIL UNDERLYING ENTIRE SITE

70 35 0 70 140 210

SCALE: 1" = 70'

POC-1 Area: 3.28 acres.

PRE DEVELOPED DRAINAGE

VALLEY CENTER STORAGE
13630 OLD RD
VALLEY CENTER, CA 92082

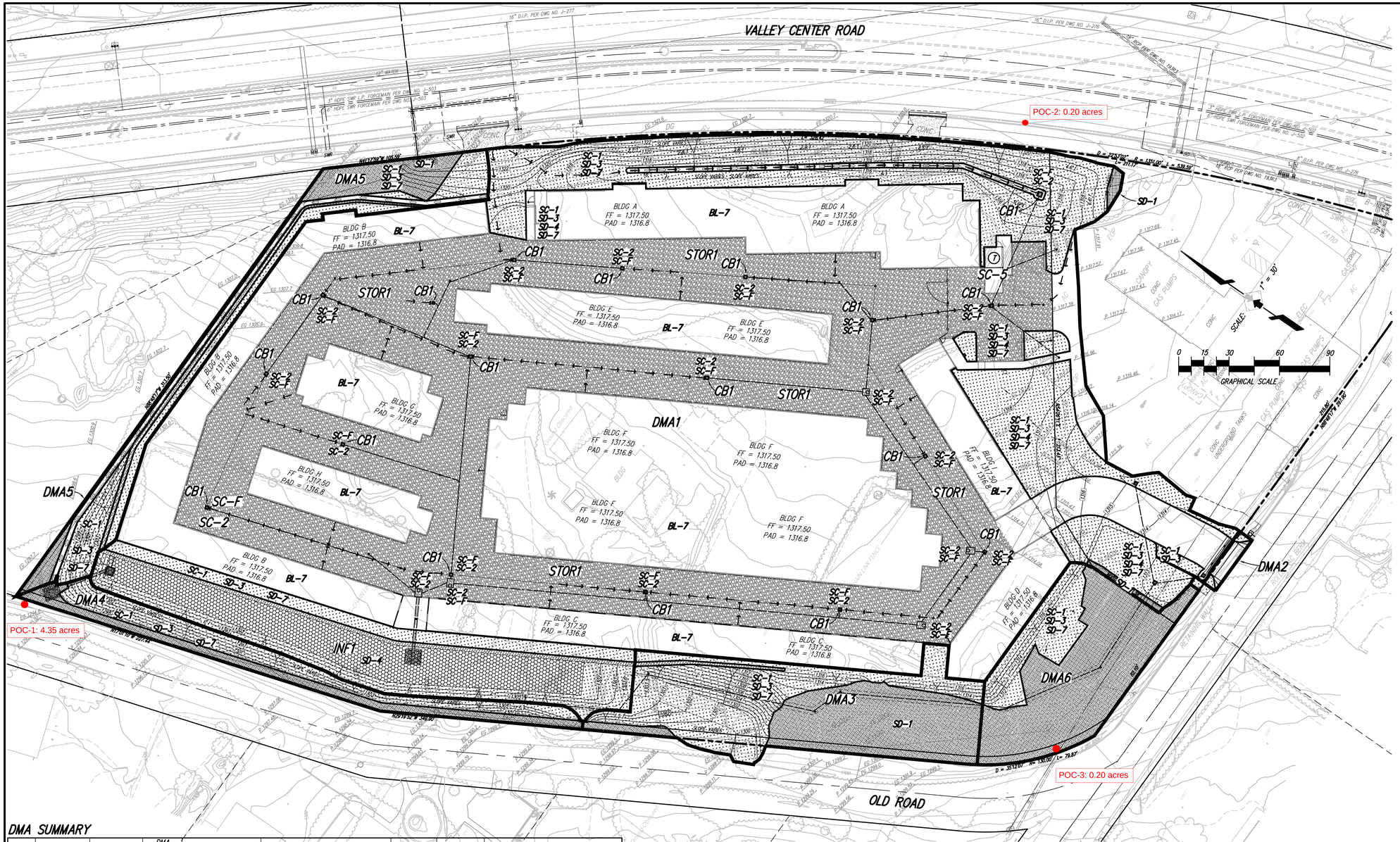
SHEET 1 OF 1

REC Consultants, Inc.

Civil Engineering ~ Land Surveying
Water Resources

2970 Fifth Avenue, Unit 340
San Diego, CA 92103
(619)232–9200 (619)232–9210 Fax

SAVE DATE: 1/20/2026 ~ PLOT DATE: 1/20/2026 ~ FILE NAME: P:\Acad\7032 Alidade\026 Valley Center Storage\Drainage\Drainage Exhibit_PRE_01–05–26.dwg



LEGEND

DESCRIPTION	STANDARD SYMBOL
DRAINAGE MANAGEMENT AREA	
STORM DRAIN	
LANDSCAPE AREA DRAIN	
12" X 12" GRATED CATCH BASIN	
18" X 18" GRATED CATCH BASIN (FITTED WITH 7/16" FLOW CONTROL ORIFICES PER DETAIL SHEET 7 OF GRADING PLANS)	
24" X 24" GRATED CATCH BASIN	
36" X 36" GRATED CATCH BASIN	
TYPE 'A' OR 'B' CLEANOUT	
DEVELOPED IMPERVIOUS AREA	
DEVELOPED LANDSCAPED AREA	
PROPOSED INFILTRATION BASIN	
EXISTING UNDISTURBED 'B' SOILS	
LINED GRAVEL PAVE	
DIRECTION OF FLOW	
PROPOSED TRASH STORAGE AREA	(7)

SITE DESIGN BMPS

1. SD-2 CONSERVE NATURAL AREAS, SOILS AND VEGETATION: EXISTING ONSITE LANDSCAPING WILL BE PROTECTED IN PLACE TO MAXIMUM EXTENT POSSIBLE IN AREAS THAT ARE DESIGNATED TO BE UNDISTURBED.

2. SD-3 MINIMIZE IMPERVIOUS AREA: PARKING STALLS TO BE CONSTRUCTED TO THE MINIMUM WIDTHS NECESSARY AND STILL MAINTAIN PUBLIC SAFETY. MINIMIZE THE USE OF IMPERVIOUS SURFACES IN THE LANDSCAPE DESIGN.

3. SD-4 MINIMIZE SOIL COMPACTION: COMPACTION TO BE MINIMIZED TO MAXIMUM EXTENT POSSIBLE IN THE PROPOSED LANDSCAPE AREAS.

4. SD-7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES: LANDSCAPE DESIGN WILL INCLUDE NATIVE AND/OR DROUGHT TOLERANT SPECIES.

SOURCE CONTROL BMPS

1. SC-1 PREVENTION OF ILLICIT DISCHARGES INTO THE MS4: LANDSCAPE PLANS WILL INCLUDE EFFECTIVE IRRIGATION TO LIMIT OVER-IRRIGATION. IN ADDITION, THERE ARE NO AREAS ON SITE FOR VEHICLE WASHING.

2. SC-2 STORM DRAIN STENCILING OR SIGNAGE: CONCRETE CATCH BASINS AND CLEAN OUT STRUCTURES WILL BE STENCILED OR HAVE A PLACARD APPLIED TO PROHIBIT ILLEGAL DUMPING.

3. SC-5 PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL: TRASH STORAGE AREAS WILL BE COVERED TO PROTECT FROM RAINFALL AND WALLED TO PREVENT THE OFFSITE TRANSPORT OF TRASH.

4. BL-7 MANAGEMENT OF NON-STORM WATER DISCHARGES: CATCH BASINS AND CLEAN OUT STRUCTURES WILL BE STENCILED OR HAVE A PLACARD APPLIED TO PROHIBIT ILLEGAL DUMPING (SC-F). RUNOFF FROM ALL DRAIN LINES FROM AIR CONDITIONING UNITS WILL BE DIRECTED TO THE ONSITE PRIVATE STORM DRAIN SYSTEM AND CONVEYED TO THE PROPOSED INFILTRATION BASIN. FIRE SPRINKLER TEST WATER SHALL BE DIRECTED TO THE ONSITE PRIVATE STORM DRAIN SYSTEM AND CONVEYED TO THE PROPOSED INFILTRATION BASIN.

BMP NOTES

1. THESE BMPS ARE MANDATORY TO BE INSTALLED AS SHOWN PER PLAN.
2. NO CHANGES TO THE PROPOSED BMPS ON THIS SHEET WITHOUT PRIOR APPROVAL FROM THE ENGINEERING DEPARTMENT.
3. NO SUBSTITUTIONS TO THE MATERIAL TYPES OR PLANTING TYPES WITHOUT PRIOR APPROVAL FROM THE LAND DEVELOPMENT ENGINEER.
4. NO OCCUPANCY WILL BE GRANTED UNTIL THE COUNTY INSPECTION STAFF HAS INSPECTED THIS PROJECT FOR APPROPRIATE BMP CONSTRUCTION.

GENERAL INFORMATION

RECEIVING WATER – SAN LUIS REY RIVER
POLLUTANTS OF CONCERN – BENTHIC COMMUNITY EFFECTS, BIFENTHRIN, CHLORIDE, INDICATOR BACTERIA, NITROGEN, OXYGEN DISSOLVED, PHOSPHORUS, PYRETHROIDS, TOTAL DISSOLVED SOLIDS AND TOXICITY.

RECEIVING WATER – PACIFIC OCEAN SHORELINE
POLLUTANTS OF CONCERN – INDICATOR BACTERIA

PROJECT SITE INFO

1. UNDERLYING HYDROLOGIC SOILS ARE TYPE 'B'.
2. APPROXIMATE GROUND WATER DEPTH IS OVER 25 FEET BELOW EXISTING GROUND.
3. THERE ARE NO CRITICAL COARSE SEDIMENT YIELD AREAS ON SITE.
4. THERE ARE NO EXISTING HYDROLOGIC FEATURES ON SITE.

DMA SUMMARY

DMA NAME	DMA SURFACE TYPE	DMA AREA (FT^2)	DMA RUNOFF FACTOR	DMA TYPE	PROPOSED STRUCTURAL BMP TYPE	STRUCTURAL BMP ID	IMP SIZING FACTOR
DMA1	LANDSCAPING	25,248.6	0.10	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	NATURAL 'B'	320.0	0.14	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	IMPERVIOUS	77,312.6	0.90	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	LINED GRAVEL	57,642.7	0.90	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
	AGGREGATE	5,576.0	0.30	DRAINS TO BMP	INFILTRATION (INF-1)	INF1	0.03
DMA2	IMPERVIOUS	250.0	0.9	DE MINIMIS AREA ULTIMATELY DRAINS TO OLD ROAD.			
	LANDSCAPING	70.0	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
DMA3	LANDSCAPING	6,255.1	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
	IMPERVIOUS	193.6	0.9	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD (LESS THAN 5% OF SELF MITIGATING AREA).			
	NATURAL 'B'	4709.5	0.14				
DMA4	LANDSCAPING	2,994.3	0.1	SELF MITIGATING ULTIMATELY DRAINS TO OLD ROAD.			
	NATURAL 'B'	1,823.5	0.14				
DMA5	LANDSCAPING	3,150.7	0.1	SELF MITIGATING DRAINS TO PROPOSED BROW DITCH THAT OUTLETS TO OLD ROAD.			
	IMPERVIOUS	671.1	0.9	SELF MITIGATING DRAINS TO PROPOSED BROW DITCH THAT OUTLETS TO OLD ROAD (RETAINING WALL THAT EXCEEDS 5% OF SELF MITIGATING AREA). DUE TO SITE CONSTRAINTS, THE RUNOFF FROM THE RETAINING WALL CANNOT BE DIRECTED TO A TREATMENT CONTROL BMP. AS NOTED IN THE CALCULATION THIS SHEET, INF1 IS OVERSIZED TO ALLOW FOR THIS AREA TO BE LEFT UNTREATED.			
	NATURAL 'B'	2,203.1	0.14				
	IMPERVIOUS	1,115.3	0.9	BROW DITCH (STORM WATER CONVEYANCE SYSTEM)			
DMA6	LANDSCAPING	2,070.0	0.1	SELF MITIGATING ULTIMATELY DRAINS TO AN EXISTING CULVERT WHICH CROSSES OLD ROAD.			
	NATURAL 'B'	6,642.0	0.14				

NOTE: SEE SHEETS 5, 6 AND 7 FOR DETAILS OF INFILTRATION BASIN AND STORM DRAIN STRUCTURES

BMP TABLE

BMP ID #	BMP TYPE	SYMBOL	QUANTITY	PLAN NO.	SHEET NO.	INSPECTION FREQUENCY	MAINTENANCE FREQUENCY
INF1	INF-1		5,576 S.F.	PDS2024-LDGRMJ-30505	6, 10, 27	MONTHLY*	AS NEEDED
CB1	PRE-TREATMENT		18 EA	PDS2024-LDGRMJ-30505	7, 8, 9, 10, 11	SEMI-ANNUALLY	AS NEEDED
STOR1	INF-3		57,642.7 S.F.	PDS2024-LDGRMJ-30505	6, 7, 27	MONTHLY*	AS NEEDED

*INSPECT MONTHLY (AT A MINIMUM) AND AFTER EVERY 0.5-INCH OR LARGER STORM EVENT.

DMA1	DMA AREA (FT^2)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X RUNOFF FACTOR	SOIL TYPE	IMP NAME
	134,955.3	IMPERVIOUS	0.9	121,459.8	B	INF1
	25,248.6	LANDSCAPING	0.1	2,524.9		
	320.0	NATURAL 'B'	0.14	44.8		
	5,576.0	AGGREGATE	0.3	1,672.8		
			TOTAL	125,702.3		

IMP SIZING FACTOR	MINIMUM AREA OR VOLUME	PROPOSED AREA OR VOLUME	
0.03	3,771.1	5,576	(FT^2) IMP AREA

BASIN INF1 OVERSIZED FOR MULTIPLE REASONS INCLUDING ACCOUNTING FOR PORTION OF PROPOSED RETAINING WALL THAT CANNOT BE DIRECTED TO A TREATMENT CONTROL BMP.

Alidade ENGINEERING
43950 MARGARITA ROAD, SUITE 'C'
TEMECULA, CA 92592
PH: (951) 587-2020
FAX: (951) 587-2626

RECORD PLAN

BY: _____ DATE: _____
NAME
R.C.E. _____
EXPIRES: _____

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK

DESCRIPTION: FOUND 2" BRASS CAP MARKED "VCR-92"
LOCATION: STORM DRAIN CURB INLET AT THE NORTHWEST CORNER OF OLD ROAD AND VALLEY CENTER ROAD
RECORD FROM: COUNTY OF SAN DIEGO
ELEVATION: 1314.45 DATUM: M.S.L.

REGISTERED PROFESSIONAL ENGINEER
BRENT C. MOORE
No.59121
Exp. 6-30-27
CIVIL
STATE OF CALIFORNIA

PRIVATE CONTRACT

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	32 SHEETS
27		

DMA EXHIBIT FOR:
SOUTH VILLAGE STORAGE

CALIFORNIA COORDINATE INDEX 380-1750

APPROVED FOR WILLIAM P. MORGAN, COUNTY ENGINEER
BY: _____
DATE: _____

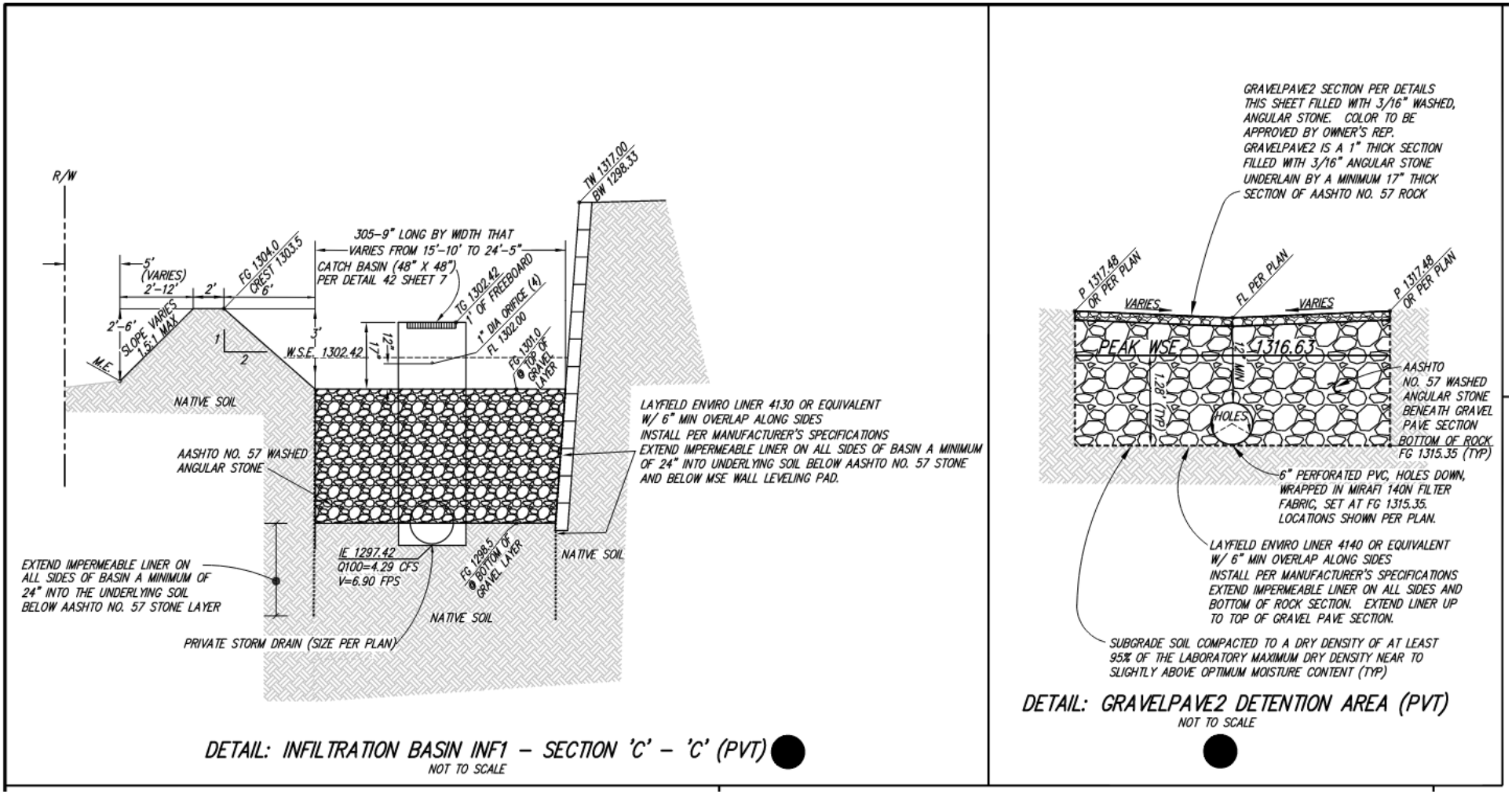
ENGINEER OF WORK
DATE:
BRENT C. MOORE, R.C.E. 59121

PDS2024-LDGRMJ-30505
GRADING PERMIT NO:

ENGINEERS NAME: ALIDADE ENGINEERING
PHONE NO.(951) 587-2020

22-324GP27.dwg 01-12-26

INFILTRATION BASIN DETAILS

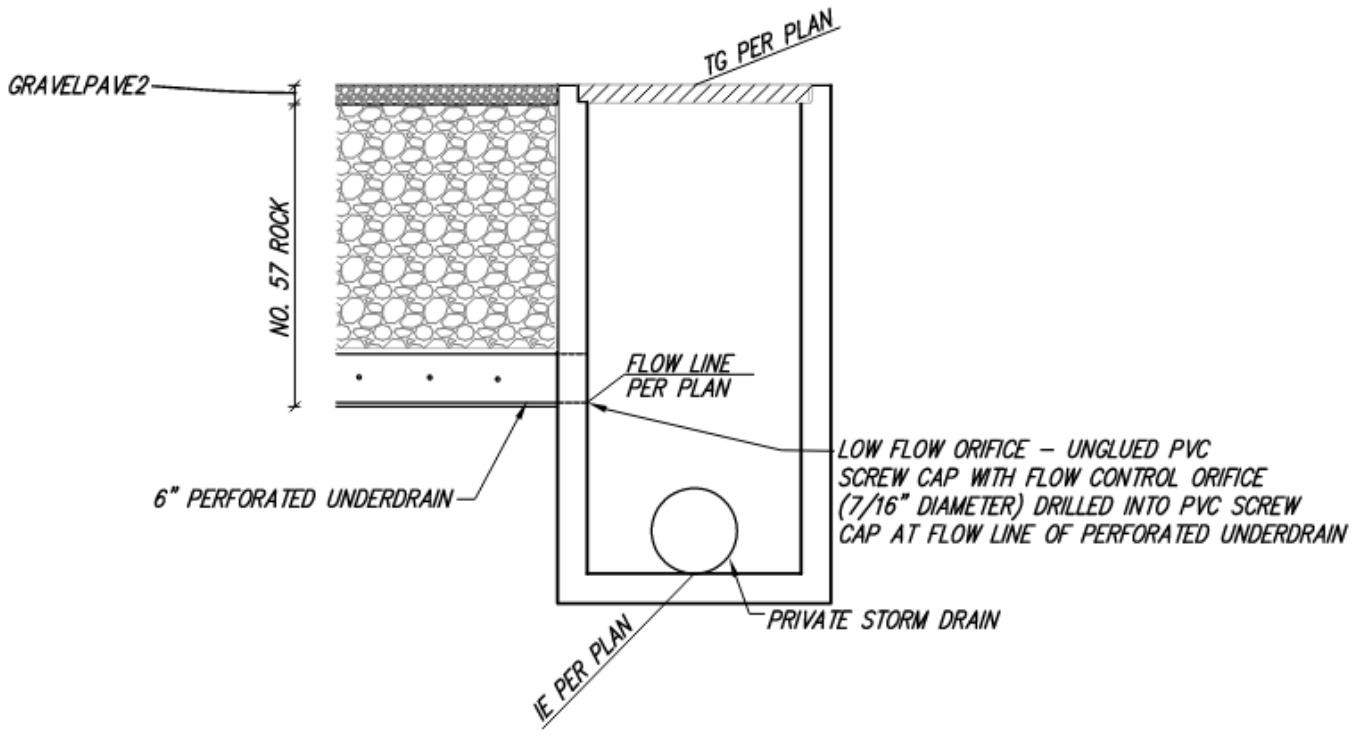


DETAIL: INFILTRATION BASIN INF1 – SECTION 'C' – 'C' (PVT)

NOT TO SCALE

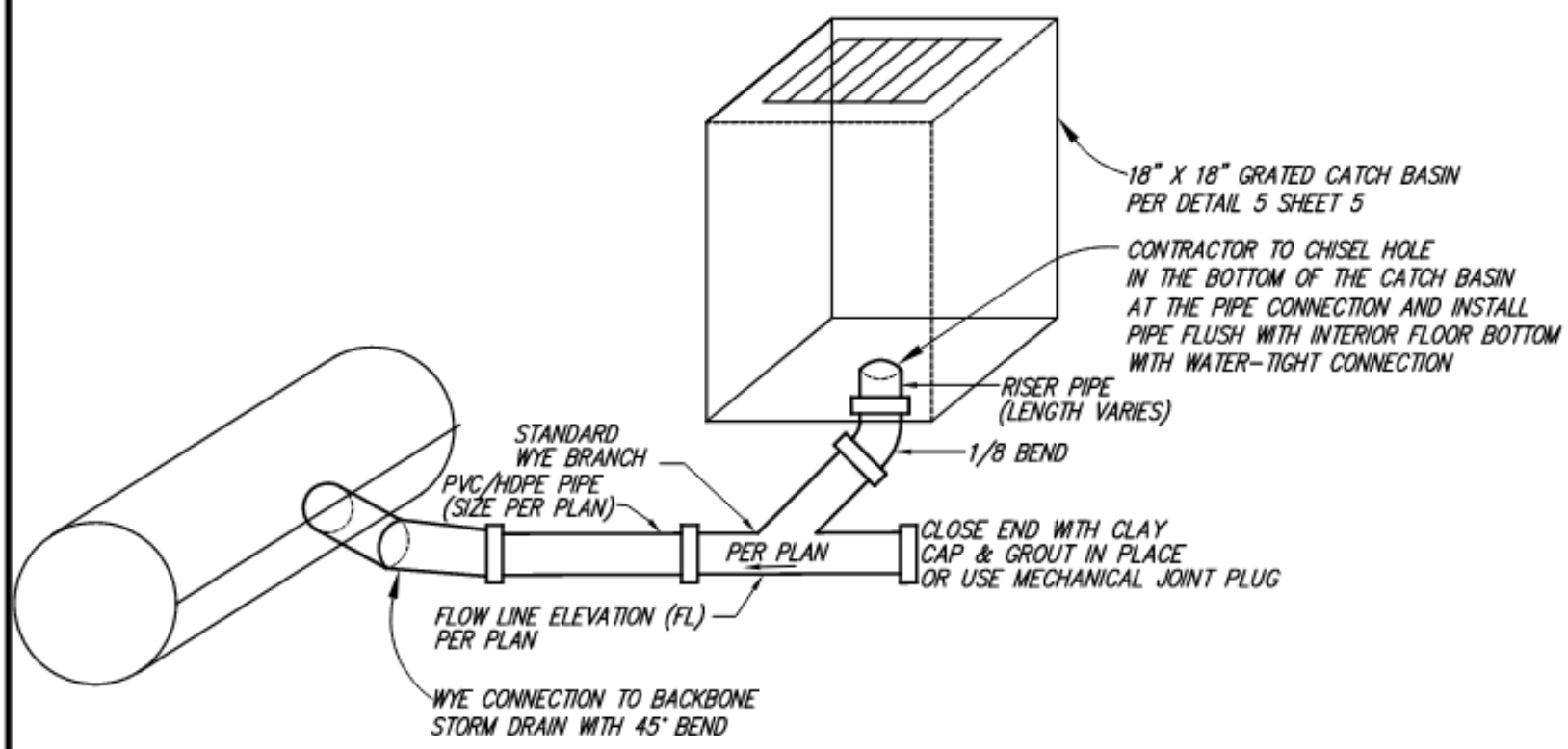
DETAIL: GRAVELPAVE2 DETENTION AREA (PVT)

NOT TO SCALE



DETAIL: FLOW CONTROL ORIFICES AT 18" X 18" CATCH BASINS (PVT) (5)

NOT TO SCALE



DETAIL: MODIFIED CATCH BASIN WITH BOTTOM OUTLET (PVT) (38)
CONNECTION TO BACK BONE STORM DRAIN

NOT TO SCALE

ATTACHMENT 6

SWMM Input Data in Input Format (Existing & Proposed Models)

PRE_DEV

```
[TITLE]

[OPTIONS]
FLOW_UNITS           CFS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         KINWAVE
START_DATE           05/24/1950
START_TIME           00:00:00
REPORT_START_DATE    05/24/1950
REPORT_START_TIME    00:00:00
END_DATE             05/23/2008
END_TIME             23:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          01:00:00
WET_STEP             00:05:00
DRY_STEP             01:00:00
ROUTING_STEP         0:00:30
ALLOW_PONDING        NO
INERTIAL_DAMPING     PARTIAL
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
NORMAL_FLOW_LIMITED  BOTH
SKIP_STEADY_STATE    NO
FORCE_MAIN_EQUATION  H-W
LINK_OFFSETS         DEPTH
MIN_SLOPE            0

[EVAPORATION]
;;Type       Parameters
;;---------- ----------
MONTHLY      0.07   0.10   0.13   0.17   0.19   0.22   0.24   0.22   0.19   0.13   0.09   0.06
DRY_ONLY     NO

[RAINGAGES]
;;               Rain      Time   Snow   Data
;;Name           Type      Intrvl Catch  Source
;;-------------- --------- ------ ------ ----------
Lake_Wohlford    INTENSITY 1:00   1.0    TIMESERIES Lake_Wohlford

[SUBCATCHMENTS]
;;                                                 Total    Pcnt.             Pcnt.    Curb     Snow
;;Name           Raingage         Outlet           Area     Imperv   Width    Slope    Length   Pack
;;-------------- ---------------- ---------------- -------- -------- -------- -------- -------- --------
DMA-1            Lake_Wohlford    POC-1            3.28     0        639      5        0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
DMA-1            0.012      0.05       0.05       0.1        25         OUTLET

[INFILTRATION]
;;Subcatchment   Suction    HydCon     IMDmax
;;-------------- ---------- ---------- ----------
DMA-1            3          0.2        0.32

[OUTFALLS]
;;               Invert     Outfall    Stage/Table      Tide
;;Name           Elev.      Type       Time Series      Gate
;;-------------- ---------- ---------- ---------------- ----
POC-1            0          FREE                        NO

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
Lake_Wohlford    FILE "L Wohlford-II.txt"

[REPORT]
INPUT      NO
```

```
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 0.000 0.000 10000.000 10000.000
Units      None

[COORDINATES]
;;Node           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
POC-1            5000.000           5000.000

[VERTICES]
;;Link           X-Coord            Y-Coord
;;-------------- ------------------ ------------------

[Polygons]
;;Subcatchment   X-Coord            Y-Coord
;;-------------- ------------------ ------------------
DMA-1            4478.114           6094.276

[SYMBOLS]
;;Gage           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
Lake_Wohlford    4713.805           7059.484
```

POST_DEV

```
[TITLE]

[OPTIONS]
FLOW_UNITS           CFS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         KINWAVE
START_DATE           05/24/1950
START_TIME           00:00:00
REPORT_START_DATE    05/24/1950
REPORT_START_TIME    00:00:00
END_DATE             05/23/2008
END_TIME             23:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          01:00:00
WET_STEP             00:05:00
DRY_STEP             01:00:00
ROUTING_STEP         0:00:30
ALLOW_PONDING        NO
INERTIAL_DAMPING     PARTIAL
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
NORMAL_FLOW_LIMITED  BOTH
SKIP_STEADY_STATE    NO
FORCE_MAIN_EQUATION  H-W
LINK_OFFSETS         DEPTH
MIN_SLOPE            0

[EVAPORATION]
;;Type       Parameters
;;---------- ----------
MONTHLY      0.07   0.10   0.13   0.17   0.19   0.22   0.24   0.22   0.19   0.13   0.09   0.06
DRY_ONLY     NO

[RAINGAGES]
;;               Rain      Time   Snow   Data
;;Name           Type      Intrvl Catch  Source
;;-------------- --------- ------ ------ ----------
Lake_Wohlford    INTENSITY 1:00   1.0    TIMESERIES Lake_Wohlford

[SUBCATCHMENTS]
;;                                                 Total    Pcnt.             Pcnt.    Curb     Snow
;;Name           Raingage         Outlet           Area     Imperv   Width    Slope    Length   Pack
;;-------------- ---------------- ---------------- -------- -------- -------- -------- -------- --------
DMA-1A           Lake_Wohlford    Up-DET           3.379    89.05    1296     2.5      0
DMA-1B           Lake_Wohlford    BMP-1            0.194    0        300      5        0
DMA-3            Lake_Wohlford    POC-1            0.250    1.73     520      25       0
DMA-5            Lake_Wohlford    POC-1            0.164    25.02    340      25       0
DMA-4-slope      Lake_Wohlford    DMA-4-nat        0.0687   0        320      50       0
DMA-4-nat        Lake_Wohlford    POC-1            0.0419   0        320      2        0
DMA-1C           Lake_Wohlford    BMP-1            0.250    35.64    61       4        0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
DMA-1A           0.012      0.05       0.05       0.1        25         OUTLET
DMA-1B           0.012      0.05       0.05       0.1        25         OUTLET
DMA-3            0.012      0.05       0.05       0.1        25         OUTLET
DMA-5            0.012      0.05       0.05       0.1        25         OUTLET
DMA-4-slope      0.012      0.05       0.05       0.1        25         OUTLET
DMA-4-nat        0.012      0.05       0.05       0.1        25         OUTLET
DMA-1C           0.012      0.05       0.05       0.1        25         OUTLET

[INFILTRATION]
;;Subcatchment   Suction    HydCon     IMDmax
;;-------------- ---------- ---------- ----------
DMA-1A           3          0.15       0.32
DMA-1B           3          0.15       0.32
DMA-3            3          0.172      0.32
DMA-5            3          0.171      0.32
DMA-4-slope      3          0.15       0.32
DMA-4-nat        3          0.2        0.32
DMA-1C           3          0.15       0.32
```

POST_DEV

[OUTFALLS]

;;Name	Invert Elev.	Outfall Type	Stage/Table Time Series	Tide Gate
POC-1	0	FREE		NO

[STORAGE]

;;Name	Invert Elev.	Max. Depth	Init. Depth	Storage Curve	Curve Params			Ponded Area	Evap. Frac.	Infiltration Parameters		
BMP-1	0	5.5	0	TABULAR	Basin-1			2250	1	3	0.7225	0.32
Up-DET	0	1.6	0	TABULAR	DET-Up-A			22884	0			

[OUTLETS]

;;Name	Inlet Node	Outlet Node	Outflow Height	Outlet Type	Qcoeff/ QTable	Qexpon	Flap Gate
Out-1	BMP-1	POC-1	0	TABULAR/DEPTH	outlet-1		NO
Out-DET	Up-DET	BMP-1	0	TABULAR/DEPTH	Det-UP-Q		NO

[CURVES]

;;Name	Type	X-Value	Y-Value
outlet-1	Rating	0	0
outlet-1		3.25	0.000
outlet-1		3.33	0.021
outlet-1		3.42	0.038
outlet-1		3.50	0.049
outlet-1		3.54	0.053
outlet-1		3.58	0.058
outlet-1		3.67	0.065
outlet-1		3.75	0.072
outlet-1		3.83	0.079
outlet-1		3.92	0.084
outlet-1		4.00	1.283
outlet-1		4.08	3.470
outlet-1		4.17	6.300
outlet-1		4.25	9.650
outlet-1		4.33	13.449
outlet-1		4.42	17.650
outlet-1		4.50	22.216
outlet-1		4.58	27.120
outlet-1		4.67	32.341
outlet-1		4.75	37.861
outlet-1		4.83	43.664
outlet-1		4.92	49.736
outlet-1		5.00	56.067
outlet-1		5.08	62.646
outlet-1		5.17	69.464
outlet-1		5.25	76.514
outlet-1		5.33	83.787
outlet-1		5.42	91.277
outlet-1		5.50	98.978
Det-UP-Q	Rating	0.00	0.000
Det-UP-Q		0.10	0.051
Det-UP-Q		0.20	0.076
Det-UP-Q		0.30	0.095
Det-UP-Q		0.40	0.111
Det-UP-Q		0.50	0.124
Det-UP-Q		0.60	0.136
Det-UP-Q		0.70	0.148
Det-UP-Q		0.80	0.158
Det-UP-Q		0.90	0.168
Det-UP-Q		1.00	0.177
Det-UP-Q		1.10	0.186
Det-UP-Q		1.20	0.194
Det-UP-Q		1.30	0.203
Det-UP-Q		1.40	0.210
Det-UP-Q		1.50	0.218
Det-UP-Q		1.525	1.396
Det-UP-Q		1.550	3.549
Det-UP-Q		1.575	6.336
Det-UP-Q		1.600	9.636

```
Basin-1          Storage    0          2250
Basin-1                     1          2250
Basin-1                     2.5        2250
Basin-1                     2.501      5625
Basin-1                     2.58       5688
Basin-1                     2.67       5753
Basin-1                     2.75       5815
Basin-1                     2.83       5880
Basin-1                     2.92       5948
Basin-1                     3          6014
Basin-1                     3.08       6082
Basin-1                     3.17       6151
Basin-1                     3.25       6220
Basin-1                     3.33       6291
Basin-1                     3.42       6363
Basin-1                     3.5        6435
Basin-1                     3.58       6509
Basin-1                     3.67       6583
Basin-1                     3.75       6658
Basin-1                     3.83       6735
Basin-1                     3.92       6812
Basin-1                     4          6890
Basin-1                     4.08       6969
Basin-1                     4.17       7049
Basin-1                     4.25       7130
Basin-1                     4.33       7211
Basin-1                     4.42       7294
Basin-1                     4.5        7378
Basin-1                     4.58       7462
Basin-1                     4.67       7548
Basin-1                     4.75       7634
Basin-1                     4.83       7722
Basin-1                     4.92       7810
Basin-1                     5          7899
Basin-1                     5.08       7989
Basin-1                     5.17       8080
Basin-1                     5.25       8172
Basin-1                     5.33       8265
Basin-1                     5.42       8359
Basin-1                     5.5        8454

DET-Up-A         Storage    0          22884
DET-Up-A                    0.1        22884
DET-Up-A                    0.2        22884
DET-Up-A                    0.3        22884
DET-Up-A                    0.4        22884
DET-Up-A                    0.5        22884
DET-Up-A                    0.6        22884
DET-Up-A                    0.7        22884
DET-Up-A                    0.8        22884
DET-Up-A                    0.9        22884
DET-Up-A                    1.5        22884
DET-Up-A                    1.525      314
DET-Up-A                    1.55       1257
DET-Up-A                    1.575      2827
DET-Up-A                    1.6        5027

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
Lake_Wohlford    FILE "L Wohlford-II.txt"

[REPORT]
INPUT      NO
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 0.000 0.000 10000.000 10000.000
Units      None
```

POST_DEV

```
[COORDINATES]
;;Node           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
POC-1            5000.000           5000.000
BMP-1            4000.000           5000.000
Up-DET           4000.000           5500.000

[VERTICES]
;;Link           X-Coord            Y-Coord
;;-------------- ------------------ ------------------

[Polygons]
;;Subcatchment   X-Coord            Y-Coord
;;-------------- ------------------ ------------------
DMA-1A           3500.000           6000.000
DMA-1B           4750.000           6000.000
DMA-3            5200.000           6000.000
DMA-5            6000.000           6000.000
DMA-4-slope      6500.000           6000.000
DMA-4-nat        6500.000           5500.000
DMA-1C           3100.000           6000.000

[SYMBOLS]
;;Gage           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
Lake_Wohlford    4933.333           6500.000
```

ATTACHMENT 7

EPA SWMM FIGURES AND EXPLANATIONS

Per the attached, the reader can see the screens associated with the EPA-SWMM Model in both pre-development and post-development conditions. Each portion, i.e., sub-catchments, outfalls, storage units, weir as a discharge, and outfalls (point of compliance), are also shown.

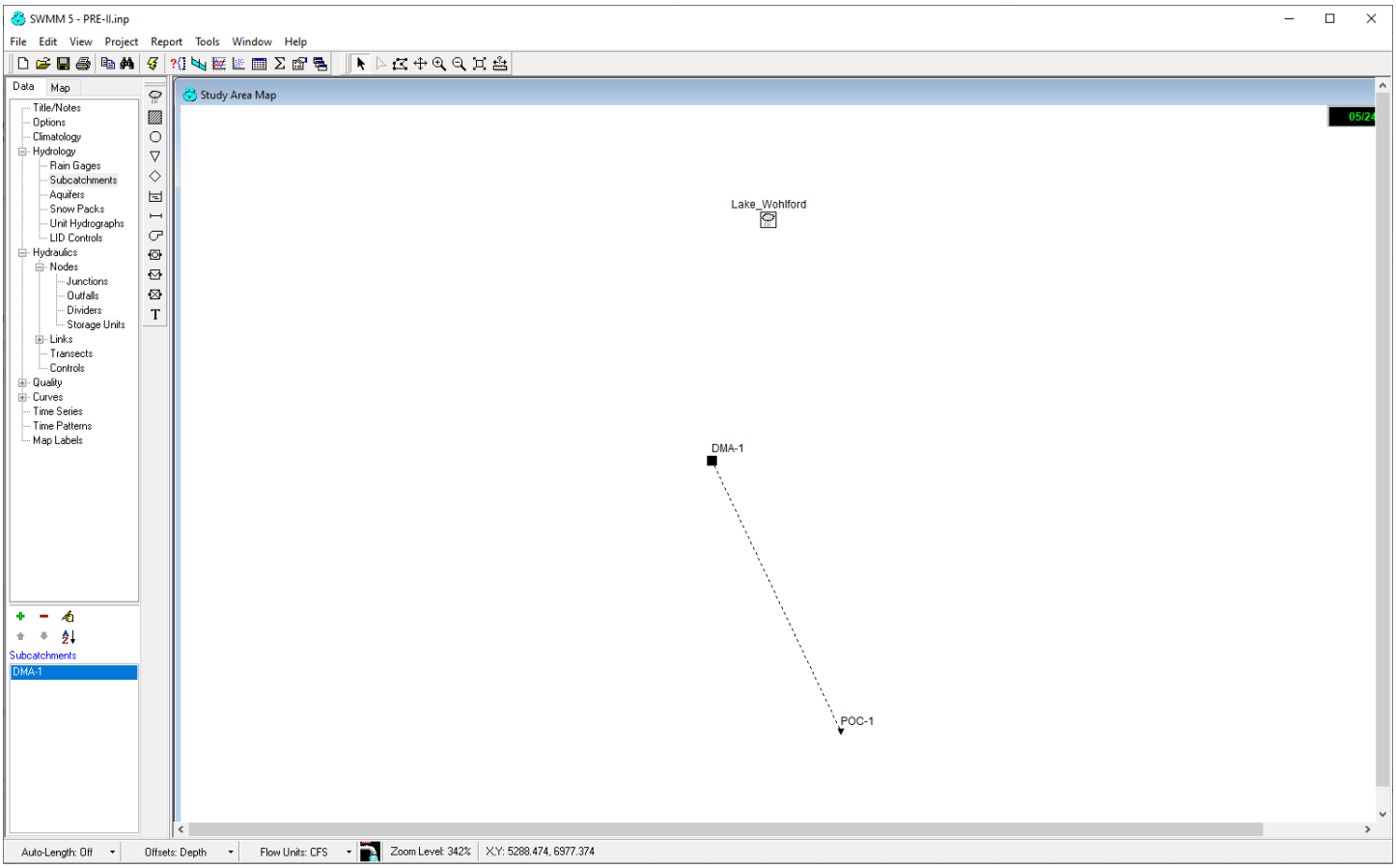
Variables for modeling are associated with typical recommended values by the EPA-SWMM model, typical values found in technical literature (such as Maidment's Handbook of Hydrology). Recommended values for the SWMM model have been attained from Appendix G of the 2020 County of San Diego BMP Design Manual.

Soil characteristics of the existing soils were determined from the USGS WebSoil Survey website, as a conservative estimate, soils have been given a Class B classification (located in Attachment 8 of this report).

A Technical document prepared by Tory R Walker Engineering for the Cities of San Marcos, Oceanside and Vista (Reference [1]) can also be consulted for additional information regarding typical values for SWMM parameters.

Manning's roughness coefficients have been based upon the findings of the "*Improving Accuracy in Continuous Hydrologic Modeling: Guidance for Selecting Pervious Overland Flow Manning's n Values in the San Diego Region*" date 2016 by TRW Engineering (Reference [6]).

PRE-DEVELOPED CONDITIONS



Outfall POC-1

Property	Value
Name	POC-1
X-Coordinate	5000.000
Y-Coordinate	5000.000
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	0
Tide Gate	NO
Type	FREE
Fixed Outfall	
Fixed Stage	0
Tidal Outfall	
Curve Name	*
Time Series Outfall	
Series Name	*

User-assigned name of outfall

Rain Gage Lake_Wohlford

Property	Value
Name	Lake_Wohlford
X-Coordinate	4713.805
Y-Coordinate	7059.484
Description	
Tag	
Rain Format	INTENSITY
Time Interval	1:00
Snow Catch Factor	1.0
Data Source	TIMESERIES
TIME SERIES:	
- Series Name	Lake_Wohlford
DATA FILE:	
- File Name	*
- Station ID	*
- Rain Units	IN

User-assigned name of rain gage

Subcatchment DMA-1

Property	Value
Name	DMA-1
X-Coordinate	4478.114
Y-Coordinate	6094.276
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	POC-1
Area	3.28
Width	639
% Slope	5
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT ...
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

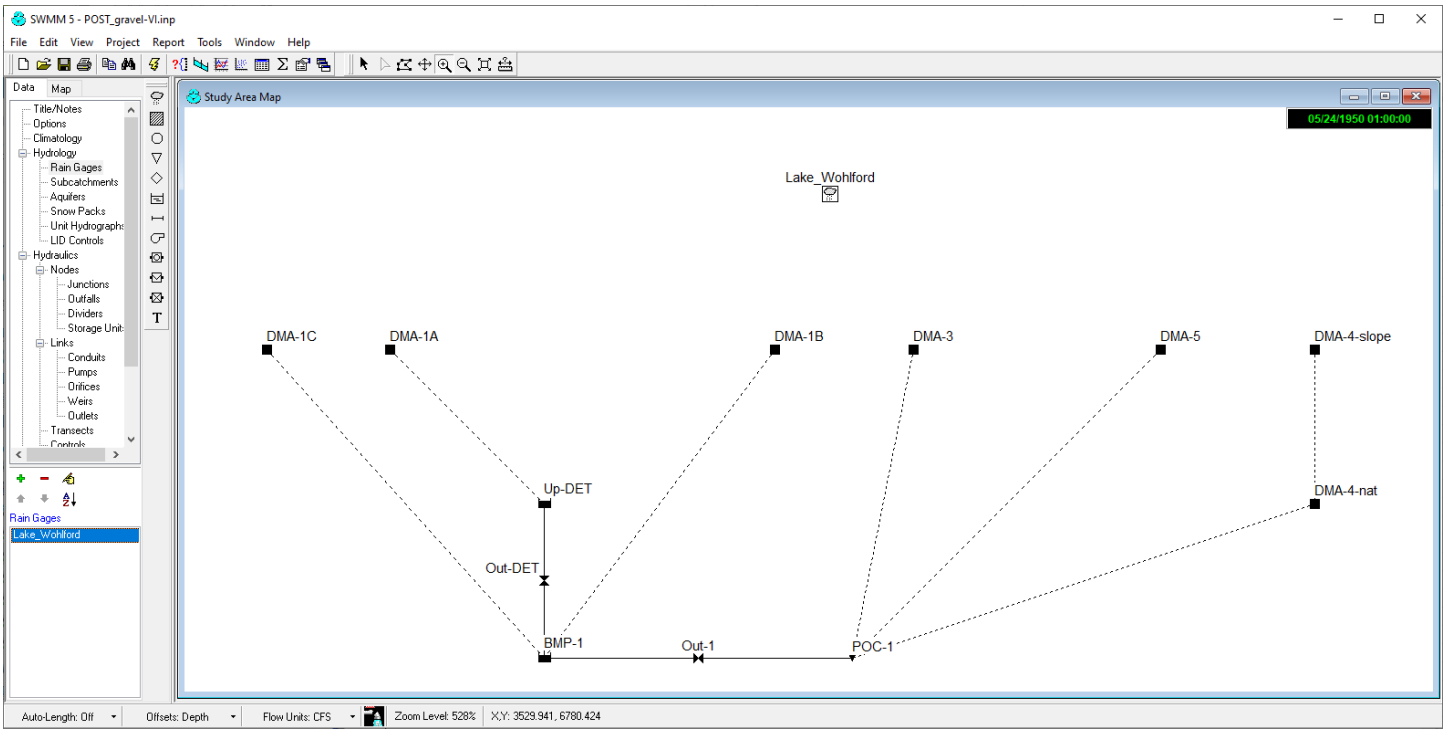
Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.2
Initial Deficit	0.32

Soil capillary suction head (inches or mm)

OK Cancel Help

POST-DEVELOPED CONDITIONS



Outfall POC-1

Property	Value
Name	POC-1
X-Coordinate	5000.000
Y-Coordinate	5000.000
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	0
Tide Gate	NO
Type	FREE
Fixed Outfall	
Fixed Stage	0
Tidal Outfall	
Curve Name	*
Time Series Outfall	
Series Name	*

User-assigned name of outfall

Rain Gage Lake_Wohlford

Property	Value
Name	Lake_Wohlford
X-Coordinate	4933.333
Y-Coordinate	6844.444
Description	
Tag	
Rain Format	INTENSITY
Time Interval	1:00
Snow Catch Factor	1.0
Data Source	TIMESERIES
TIME SERIES:	
- Series Name	Lake_Wohlford
DATA FILE:	
- File Name	*
- Station ID	*
- Rain Units	IN

User-assigned name of rain gage

Subcatchment DMA-1A

Property	Value
Name	DMA-1A
X-Coordinate	3500.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	Up-DET
Area	3.379
Width	1296
% Slope	2.5
% Imperv	89.05
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Optional comment or description

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.15
Initial Deficit	0.32

Note: area assumed compacted.
Conductivity: 0.15 in/hr.

Subcatchment DMA-1B

Property	Value
Name	DMA-1B
X-Coordinate	4750.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	BMP-1
Area	0.194
Width	300
% Slope	5
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

User-assigned name of subcatchment

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.15
Initial Deficit	0.32

Note: area assumed compacted.
Conductivity: 0.15 in/hr.

Subcatchment DMA-3

Property	Value
Name	DMA-3
X-Coordinate	5200.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	POC-1
Area	0.250
Width	520
% Slope	25
% Imperv	1.73
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Optional comment or description

Subcatchment DMA-5

Property	Value
Name	DMA-5
X-Coordinate	6000.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	POC-1
Area	0.164
Width	340
% Slope	25
% Imperv	25.02
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Infiltration parameters (click to edit)

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.177
Initial Deficit	0.32

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.175
Initial Deficit	0.32

Note: area is mixed natural + compacted.
Conductivity: 0.177 in/hr is a weighted average of compacted and uncompacted pervious areas.

Note: area is mixed natural + compacted.
Conductivity: 0.171 in/hr is a weighted average of compacted and uncompacted pervious areas.

Subcatchment DMA-4-slope

Property	Value
Name	DMA-4-slope
X-Coordinate	6500.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	DMA-4-nat
Area	0.0687
Width	320
% Slope	50
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Optional comment or description

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.15
Initial Deficit	0.32

Note: area assumed compacted.
Conductivity: 0.15 in/hr.

Subcatchment DMA-4-nat

Property	Value
Name	DMA-4-nat
X-Coordinate	6500.000
Y-Coordinate	5500.000
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	POC-1
Area	0.0419
Width	320
% Slope	2
% Imperv	0
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Optional comment or description

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.2
Initial Deficit	0.32

Note: area is natural = uncompacted.
Conductivity: 0.20 in/hr.

Subcatchment DMA-1C

Property	Value
Name	DMA-1C
X-Coordinate	3100.000
Y-Coordinate	6000.000
Description	
Tag	
Rain Gage	Lake_Wohlford
Outlet	BMP-1
Area	0.250
Width	61
% Slope	4
% Imperv	35.64
N-Imperv	0.012
N-Perv	0.05
Dstore-Imperv	0.05
Dstore-Perv	0.1
%Zero-Imperv	25
Subarea Routing	OUTLET
Percent Routed	100
Infiltration	GREEN_AMPT
Groundwater	NO
Snow Pack	
LID Controls	0
Land Uses	0
Initial Buildup	NONE
Curb Length	0

Optional comment or description

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.15
Initial Deficit	0.32

Note: area assumed compacted.
Conductivity: 0.15 in/hr.

Storage Unit Up-DET

Property	Value
Name	Up-DET
X-Coordinate	4000.000
Y-Coordinate	5500.000
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	0
Max. Depth	1.6
Initial Depth	0
Ponded Area	22884
Evap. Factor	0
Infiltration	NO
Storage Curve	TABULAR
Functional Curve	
Coefficient	1000
Exponent	0
Constant	0
Tabular Curve	
Curve Name	DET-Up-A

Storage Unit BMP-1

Property	Value
Name	BMP-1
X-Coordinate	4000.000
Y-Coordinate	5000.000
Description	
Tag	
Inflows	NO
Treatment	NO
Invert El.	0
Max. Depth	5.5
Initial Depth	0
Ponded Area	2250
Evap. Factor	1
Infiltration	YES
Storage Curve	TABULAR
Functional Curve	
Coefficient	1000
Exponent	0
Constant	0
Tabular Curve	
Curve Name	Basin-1

User-assigned name of storage unit

Infiltration Editor

Infiltration Method: GREEN_AMPT

Property	Value
Suction Head	3
Conductivity	0.7225
Initial Deficit	0.32

Conductivity is average of 5 measured values with added safety factor.

Outlet Out-DET

Property	Value
Name	Out-DET
Inlet Node	Up-DET
Outlet Node	BMP-1
Description	
Tag	
Inlet Offset	0
Flap Gate	NO
Rating Curve	TABULAR/DEPTH
Functional Curve	
Coefficient	10.0
Exponent	0.5
Tabular Curve	
Curve Name	Det-UP-Q

Name of rating curve that relates outflow to either depth or head (after specifing a

Outlet Out-1

Property	Value
Name	Out-1
Inlet Node	BMP-1
Outlet Node	POC-1
Description	
Tag	
Inlet Offset	0
Flap Gate	NO
Rating Curve	TABULAR/DEPTH
Functional Curve	
Coefficient	10.0
Exponent	0.5
Tabular Curve	
Curve Name	outlet-1

Name of rating curve that relates outflow to either depth or head (after specifing a

Rating Curve Editor

Curve Name: Det-UP-Q

Description:

	Head (ft)	Outflow (CFS)
1	0	0.000
2	0.1	0.051
3	0.2	0.076
4	0.3	0.095
5	0.4	0.111
6	0.5	0.124
7	0.6	0.136
8	0.7	0.148
9	0.8	0.158

View... Load... Save... OK Cancel Help

Rating Curve Editor

Curve Name: outlet-1

Description:

	Head (ft)	Outflow (CFS)
1	0	0
2	3.25	0.000
3	3.33	0.021
4	3.42	0.038
5	3.50	0.049
6	3.54	0.053
7	3.58	0.058
8	3.67	0.065
9	3.75	0.072

View... Load... Save... OK Cancel Help

Overland Flow Manning's Coefficient per TRWE (Reference [6])

appeal of a de facto value, we anticipate that jurisdictions will not be inclined to approve land surfaces other than short prairie grass. Therefore, in order to provide SWMM users with a wider range of land surfaces suitable for local application and to provide Copermittees with confidence in the design parameters, we recommend using the values published by Yen and Chow in Table 3-5 of the EPA SWMM Reference Manual Volume I – Hydrology.

SWMM-Endorsed Values Will Improve Model Quality

In January 2016, the EPA released the SWMM Reference Manual Volume I – Hydrology (SWMM Hydrology Reference Manual). The SWMM Hydrology Reference Manual complements the SWMM 5 User's Manual and SWMM 5 Applications Manual by providing an in-depth description of the program's hydrologic components (EPA 2016). Table 3-5 of the SWMM Hydrology Reference Manual expounds upon SWMM 5 User's Manual Table A.6 by providing Manning's *n* values for additional overland flow surfaces[3]. The values are provided in Table 1:

Table 1: Manning's *n* Values for Overland Flow (EPA, 2016; Yen 2001; Yen and Chow, 1983).

Overland Surface	Light Rain (< 0.8 in/hr)	Moderate Rain (0.8-1.2 in/hr)	Heavy Rain (> 1.2 in/hr)
Smooth asphalt pavement	0.010	0.012	0.015
Smooth impervious surface	0.011	0.013	0.015
Tar and sand pavement	0.012	0.014	0.016
Concrete pavement	0.014	0.017	0.020
Rough impervious surface	0.015	0.019	0.023
Smooth bare packed soil	0.017	0.021	0.025
Moderate bare packed soil	0.025	0.030	0.035
Rough bare packed soil	0.032	0.038	0.045
Gravel soil	0.025	0.032	0.045
Mowed poor grass	0.030	0.038	0.045
Average grass, closely clipped sod	0.040	0.050	0.060
Pasture	0.040	0.055	0.070
Timberland	0.060	0.090	0.120
Dense grass	0.060	0.090	0.120
Shrubs and bushes	0.080	0.120	0.180
Land Use			
Business	0.014	0.022	0.035
Semibusiness	0.022	0.035	0.050
Industrial	0.020	0.035	0.050
Dense residential	0.025	0.040	0.060
Suburban residential	0.030	0.055	0.080
Parks and lawns	0.040	0.075	0.120

For purposes of local hydromodification management BMP design, these Manning's *n* values are an improvement upon the values presented by Engman (1986) in SWMM 5 User's Manual Table A.6. Values from SWMM 5 User's Manual Table A.6, while completely suitable for the intended application to certain agricultural land covers, comes with the disclaimer that the provided Manning's *n* values are valid for shallow-depth overland flow that match the conditions in the experimental plots (Engman,

[3] Further discussion is provided on page 6 under "Discussion of Differences Between Manning's *n* Values"

EXPLANATION OF SELECTED VARIABLES

Sub Catchment Areas:

Please refer to the attached diagrams that indicate the DMA and Bio-Retention BMPs (BMP) sub areas modeled within the project site at both the pre and post developed conditions draining to the POC.

Parameters for the pre- and post-developed models include soil type B as determined from the USGS WebSoil Survey website (attached at the end of this appendix). Suction head, conductivity and initial deficit corresponds to average values expected for these soils types, according to Appendix G of the 2016 City of Oceanside BMP Design Manual.

For surface runoff infiltration values, REC selected infiltration values per Appendix G of the 2016 City of Oceanside BMP Design Manual corresponding to hydrologic soil type.

Selection of a Kinematic Approach: As the continuous model is based on hourly rainfall, and the time of concentration for the pre-development and post-development conditions is significantly smaller than 60 minutes, precise routing of the flows through the impervious surfaces, the underdrain pipe system, and the discharge pipe was considered unnecessary. The truncation error of the precipitation into hourly steps is much more significant than the precise routing in a system where the time of concentration is much smaller than 1 hour.

Sub-catchment BMP:

The area of biofiltration must be equal to the area of the development tributary to the biofiltration facility (area that drains into the biofiltration, equal external area plus bio-retention itself). Five (5) decimal places were given regarding the areas of the biofiltration to insure that the area used by the program for the LID subroutine corresponds exactly with this tributary.

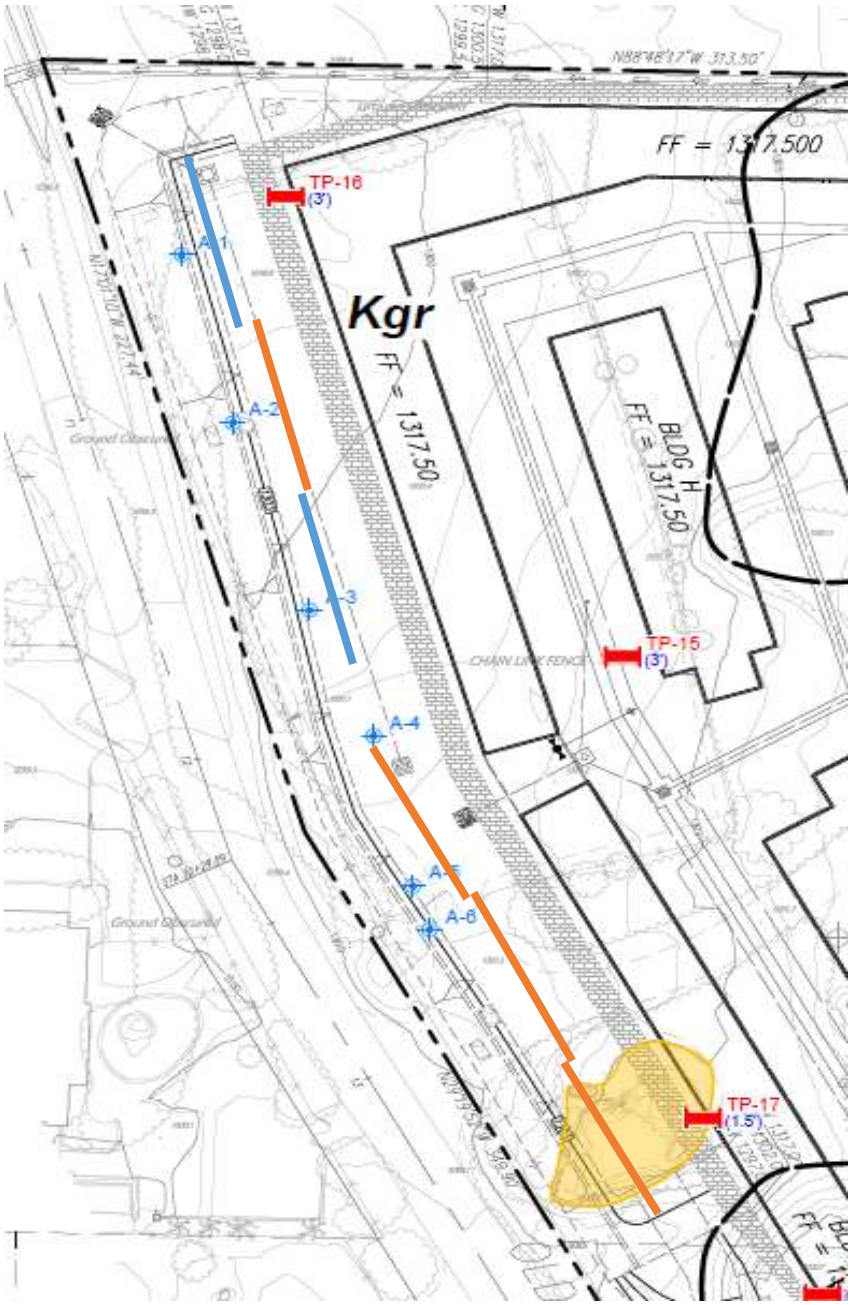
ATTACHMENT 8

Geotechnical Documentation

INFILTRATION RATE FOR DESIGN

Point	f (in/hr)	Elev.	% bottom
A-1	0.141	1300	15.0%
A-2	0.337	1301	15.0%
A-3	0.606	1300	25.0%
A-4	*Not performed*		
A-5	1.463	1301	22.5%
A-6	0.353	1301	22.5%

ALL: 0.632
(NO SAFETY FACTOR)



SF of Design

Inf. Test method:	1
(5 tests performed)	
Soil Texture class:	1
(Rocky coarse sandy loam)	
Soil variability:	2
(moderately homogeneous)	
Depth of GW:	1
(not encountered)	

S_A: 1.25

Pretreatment:	2
No runoff from unpaved areas	
Resiliency:	1
Protection gravel included	
Compaction:	2
Low likelihood	

S_B: 1.75

SF: 2.19

INFILTRATION FOR DESIGN PURPOSES: (0.632 / 2.19) **0.289 in/hr**

Note: As area has been multiplied by 0.4 for voids volume and routing, infiltration in the model must be divided by 0.4, so it will show as 0.7225 in/hr.



Map Scale: 1:1,930 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 19, Aug 30, 2023

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

Date(s) aerial images were photographed: Mar 14, 2022—Mar 17, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
VaB	Visalia sandy loam, 2 to 5 percent slopes	A	3.5	26.0%
VvD	Vista rocky coarse sandy loam, 5 to 15 percent slopes	B	10.1	74.0%
Totals for Area of Interest			**13.6**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

ATTACHMENT 9

Summary Files from the SWMM Model

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)
--------------------------------------------------------------


*****************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
*****************************************************

***************
Analysis Options
***************
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ YES
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... NO
  Water Quality .......... NO
Infiltration Method ...... GREEN_AMPT
Starting Date ............ MAY-24-1950 00:00:00
Ending Date .............. MAY-23-2008 23:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 01:00:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 01:00:00


*************************        Volume         Depth
Runoff Quantity Continuity     acre-feet        inches
*************************     ---------       -------
Total Precipitation ......       270.564       989.870
Evaporation Loss .........         0.835         3.054
Infiltration Loss ........       261.627       957.173
Surface Runoff ...........         8.260        30.220
Final Surface Storage ....         0.000         0.000
Continuity Error (%) .....        -0.058


*************************        Volume        Volume
Flow Routing Continuity        acre-feet      10^6 gal
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         8.260         2.692
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         8.260         2.692
Internal Outflow .........         0.000         0.000
Storage Losses ...........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.000


**************************
Subcatchment Runoff Summary
**************************

-----------------------------------------------------------------------------------------------------
                        Total      Total      Total      Total      Total       Total     Peak  Runoff
                       Precip      Runon       Evap      Infil     Runoff      Runoff   Runoff   Coeff
Subcatchment               in         in         in         in         in  10^6 gal      CFS
-----------------------------------------------------------------------------------------------------
DMA-1                  989.87       0.00       3.05     957.17      30.22        2.69     3.00   0.031


Analysis begun on:  Thu Jan 15 14:06:20 2026
Analysis ended on:  Thu Jan 15 14:07:49 2026
Total elapsed time: 00:01:29
```

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.0 (Build 5.0.022)
--------------------------------------------------------------

***********************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
***********************************************************

****************
Analysis Options
****************
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ YES
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... GREEN_AMPT
Flow Routing Method ...... KINWAVE
Starting Date ............ MAY-24-1950 00:00:00
Ending Date .............. MAY-23-2008 23:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 01:00:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 01:00:00
Routing Time Step ........ 30.00 sec


*************************        Volume         Depth
Runoff Quantity Continuity     acre-feet        inches
*************************     ---------       -------
Total Precipitation ......       358.630       989.870
Evaporation Loss .........        37.545       103.629
Infiltration Loss ........        93.805       258.914
Surface Runoff ...........       228.196       629.853
Final Surface Storage ....         0.008         0.022
Continuity Error (%) .....        -0.257


*************************        Volume        Volume
Flow Routing Continuity        acre-feet      10^6 gal
*************************     ---------      ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......       228.196        74.361
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........        14.983         4.882
Internal Outflow .........         0.000         0.000
Storage Losses ...........       212.996        69.408
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.137         0.045
Continuity Error (%) .....         0.035


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


************************
Routing Time Step Summary
************************
Minimum Time Step           :    30.00 sec
Average Time Step           :    30.00 sec
```

```
Maximum Time Step           :    30.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
```

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-1A	989.87	0.00	126.63	101.75	764.21	70.12	4.38	0.772
DMA-1B	989.87	0.00	5.74	929.68	55.46	0.29	0.20	0.056
DMA-3	989.87	0.00	6.45	926.50	58.44	0.40	0.25	0.059
DMA-5	989.87	0.00	36.99	706.38	249.72	1.11	0.18	0.252
DMA-4-slope	989.87	0.00	5.67	928.34	57.79	0.11	0.07	0.058
DMA-4-nat	989.87	94.76	2.97	960.05	123.85	0.14	0.11	0.114
DMA-1C	989.87	0.00	53.45	599.98	338.24	2.30	0.28	0.342

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min
POC-1	OUTFALL	0.00	0.00	0.00	0 00:00
BMP-1	STORAGE	0.13	4.02	4.02	6040 19:05
Up-DET	STORAGE	0.02	1.54	1.54	10842 04:52

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal
POC-1	OUTFALL	0.54	2.02	6040 19:05	1.650	4.882
BMP-1	STORAGE	0.48	2.88	10842 04:52	2.588	72.652
Up-DET	STORAGE	4.38	4.38	15594 17:00	70.118	70.118

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Feet	Min. Depth Below Rim Feet
BMP-1	STORAGE	508439.01	4.019	1.481
Up-DET	STORAGE	508439.01	1.539	0.061

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 ft3	Avg Pcnt Full	E&I Pcnt Loss	Maximum Volume 1000 ft3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CFS
BMP-1	0.313	1	96	15.103	57	6040 19:05	1.79
Up-DET	0.358	1	0	34.630	100	6039 08:03	2.63

****
Outfall Loading Summary
****

Outfall Node	Flow Freq. Pcnt.	Avg. Flow CFS	Max. Flow CFS	Total Volume 10^6 gal
POC-1	1.87	0.02	2.02	4.882
System	1.87	0.02	2.02	4.882

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
Out-1	DUMMY	1.79	6040 19:05			
Out-DET	DUMMY	2.63	10842 04:52			

****
Conduit Surcharge Summary
****

No conduits were surcharged.

Analysis begun on: Mon Jan 12 14:41:02 2026
Analysis ended on: Mon Jan 12 14:42:51 2026
Total elapsed time: 00:01:49

8.2 Hydromodification Management Points of Compliance

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

POC name or #	Channel name or #	POC Description
POC-1		Outlet of 18" pipe from the proposed infiltration basin

8.3 Geomorphic Assessment of Receiving Water Channels

Insert Geomorphic Assessment behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.3.

8.4 Vector Control Plan

Insert Vector Control Plan behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.4.

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**[1]	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 comprehensive WMAA mapping data can be found on the Project Clean Water website here: http://www.projectcleanwater.org/download/wmaa_attc_data/

9.1 Documentation of Hydromodification Management Exemption (BMPDM Section 1.6)

- If the PDP is exempt from hydromodification management requirements (see Table 4 Part A.1 of the PDP SWQMP), use this Sub-attachment to document the exemption.
- Select the type of exemption below that applies and provide an explanation of the selection, including maps or other applicable documentation. Additional documentation may be requested by County staff.

Exemption Type per BMPDM Figure 1-2 (select one)
☐ a. The proposed project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
☐ b. The proposed project will discharge runoff directly to conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
☐ c. The proposed project will discharge runoff directly to an area identified by the County as appropriate for an exemption by the WMAA for the watershed in which the project resides[2].
Explanation (add or attach pages as necessary)

[2] This option must include an analysis of the project using the methodology presented in Attachment E of the Regional Watershed Management Area Analysis.

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

Watershed Management Area Analysis (WMAA) mapping is a simple way to screen projects to determine the presence of onsite or offsite upstream Potential Critical Coarse Sediment Yield Areas (PCCSYAs). The San Diego County Regional WMAA mapping data can be found on the Project Clean Water website here: http://www.projectcleanwater.org/download/wmaa_attc_data/ .[3]

- Based on the WMAA map and the proposed project design, demonstrate below that both of the following conditions apply to the PDP:

  (a) Less than 5% of PCCSYAs will be impacted (built on or obstructed) by the PDP, and

  (b) All upstream offsite PCCYSAs will be bypassed (see BMPDM Appendix H.3).

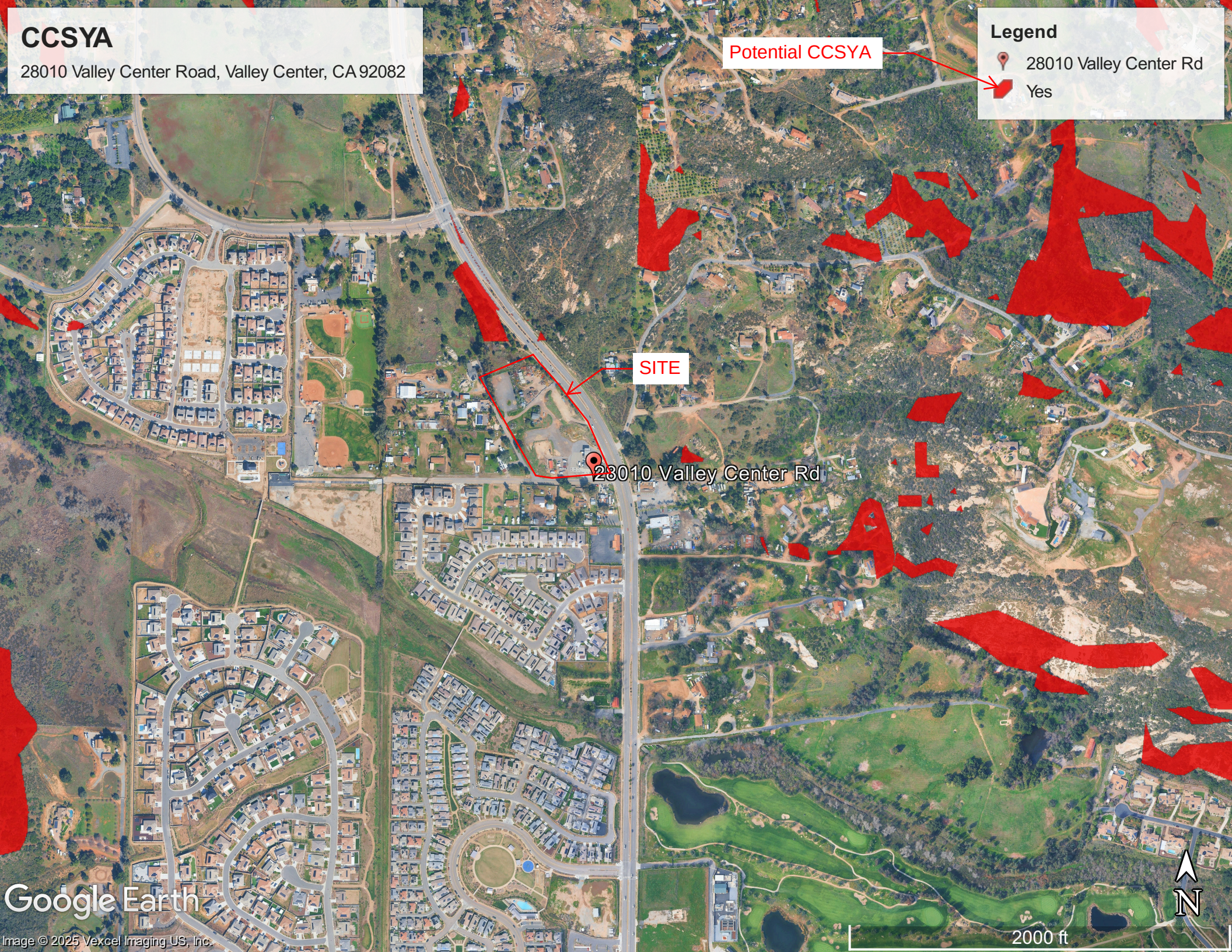
A. Mapping Results -- At a minimum, show: (1) the project footprint, (2) areas of proposed development, (3) impacted onsite PCCSYAs, (4) offsite tributary areas[4], and (5) bypass of upstream offsite PCCSYAs.

There are no existing PCCSYAs within the project footprint. The attached also illustrates that there are no PCCSYAs that are tributary to the project site.

[3] Applicants may refine initial mapping results using options identified in BMPDM Appendix H.1.2.

[4] Tributary areas must be shown to demonstrate that upstream offsite PCCSYAs do not exist. If bypassing these areas, only the bypass should be shown.

B. Explanation -- Provide documentation as needed to demonstrate that (1) impacts to PCCSYAs are below 5%, and (2) upstream offsite PCCYSAs are effectively bypassed. Add pages as necessary.


CCSYA
28010 Valley Center Road, Valley Center, CA 92082
Potential CCSYA
Legend
28010 Valley Center Rd
Yes
SITE
28010 Valley Center Rd
Google Earth
Image © 2025 Vexcel Imaging US, Inc.
2000 ft
N

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.

PART 1 PROJECT INFORMATION

A. Project Summary Information	
Project Name	South Village Storage
Record ID (e.g. grading/improvement plan number, building permit)	PDS2024-LDGRMJ-30505
Project Address	28010 Valley Center Road, Valley Center, CA 92082
Assessor's Parcel Number(s) APN(s)	186-230-16, 22 and 84
Project Watershed (Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	San Luis Rey HU, Lower San Luis HA, Valley Center HSA (903.14)
B. Owner Information	
Name	Dave Bohorquez
Address	28010 Valley Center Road, Valley Center, CA 92082
Email Address	davebohorquez@gmail.com
Phone Number	(760) 580-1436

COUNTY – OFFICIAL USE ONLY	
INTAKE ID#	
ACCEPTANCE ID#	

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

If final grade release or granting of occupancy is being requested for only a portion of the Priority Development Project (PDP) please fill out the table below. Include ALL of the Structural BMPs and/or Significant Site Design BMPs for the entire project in the table. **Include a mark-up of the DMA map from the approved SWQMP with this Verification package that clearly shows which DMAs you are submitting for approval and which DMAs have already been accepted (if any).**

DMA #	APN or Lot #	BMP ID #	WPP Acceptance Date (If applicable)	WPP Acceptance ID# (If applicable, e.g. 20/21-001)

PART 2 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.
- 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.

DMA #	BMP Information			Maintenance Category (1, 2, 3, or 4)	Maintenance Agreement Recorded DOC #	Construction Plan Sheet #	Landscape Plan Sheet #	FOR DPW-WPP USE ONLY
	Quantity	Description/Type of Structural BMP	BMP ID #					
A. Structural BMPs (S-BMPs)								
DMA1	1	Infiltration Basin	INF-1	2				
Add rows as needed. Click into the last column in the row below this, then press TAB to add a new row.								
B. Significant Site Design BMPs (SSD-BMPs)								
		Choose an item.		Choose				
		Choose an item.		Choose				
		Choose an item.		Choose				
		Choose an item.		Choose				
		Choose an item.		Choose				
		Choose an item.		Choose				
Add rows as needed. Click into the last column in the row below this, then press TAB to add a new row.								

PART 3 REQUIRED ATTACHMENTS

For the permanent BMPs listed in Part 2, submit the following to the County inspector along with this Verification form as a package (check all that are attached):

☐ **PHOTOGRAPHS:** Final construction photos of every permanent BMP listed in Part 2 are required. Final photos must be recent and be labeled with the date and a BMP Identifier. Additional photographs illustrating proper construction of the BMPs are recommended to be included and may be requested by WPP prior to acceptance of this Verification (e.g. excavation depths, liners, hydromodification orifices, Biofiltration Soil Media (BSM), vegetation, mulch).

☐ **MAINTENANCE AGREEMENTS:** Copies of approved and recorded Storm Water Maintenance Agreements (SWMA), Category 1 Maintenance Notification Agreements (MN), or Encroachment Maintenance and Removal Agreements (EMRA) for all S-BMPs.

Note: Significant Site Design (SSD) BMPs and most Category 4 BMPs do not require recorded maintenance agreements.

☐ **CONSTRUCTION PLANS:** Submit electronic and/or 11" X 17" hard copies of the current approved Construction Plan sheets for the Record ID(s) listed on Page 1:

- ☐ Grading Plans
- ☐ Improvement Plans
- ☐ Precise Grading Plan
- ☐ Building Plan (Applicable BMP Sheets only)
- ☐ Other (Please specify) _____

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

- A BMP Table on Sheet 1, AND
- A plan detail cross-section of each verified as-built BMP, AND
- The location of each verified as-built BMP

☐ **LANDSCAPE PLANS**: If the PDP includes vegetated BMPs and has a Landscape Plan, submit the following:

- ☐ Final Landscape Plans
- ☐ Proof of Irrigation Installed (if applicable)

PART 4 PREPARER'S CERTIFICATION

By signing below, I certify that the BMP(s) listed in Part 2 of this Verification Form have been constructed and 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 must be certified by a licensed professional engineer.

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

Preparer's Name:	
Email Address:	
Phone Number:	
Preparer's Signature:	
Date:	

[SEAL]

PROJECT RECORD ID: _____

COUNTY - OFFICIAL USE ONLY

County Inspector Approval:

***NOTE: The County approved SWQMP document and any Addendums or Revisions must be included with this BMP Installation Verification submittal package.**

- ☐ DPW Private Development Construction Inspection (PDCI)
- ☐ PDS Building
- ☐ DGS
- ☐ DPR

By signing below, the County Inspector concurs that every BMP listed in Part 2 of this BMP Installation Verification form has been installed per plan.

Inspector Name: _____

Inspector's Signature: _____ Date: _____

DPW Watershed Protection Program (WPP) Acceptance:

Date Received: _____

WPP Reviewer: _____

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

WPP Reviewer's Signature: _____ Date: _____

Enter Acceptance ID# on page 1.

NOTES:

11.0 Cover Sheet and General Requirements

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

a. Applicability of Maintenance Agreements

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

☐ **Maintenance Notification Agreement for Category 1 Stormwater Structural BMPs**

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

CATEGORY 1 MAINTENANCE AGREEMENTS ARE RECORDED PRIOR TO OCCUPANCY.

☒ **Storm Water Facilities Maintenance Agreement (SWMA) (Category 2 BMPs)**

- Exhibit A: Legal Description of Property
- Exhibit B: BMP Maintenance Program (see below)
- Exhibit C: BMP Locations

CATEGORY 2 MAINTENANCE AGREEMENTS ARE RECORDED PRIOR TO PERMIT ISSUANCE.

Maintenance agreement templates and instructions are available on the County's website: www.sandiegocounty.gov/stormwater under the Development Resources tab, Submittal Templates.

b. Maintenance Plan Requirements

Maintenance plans should include the following:

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

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

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

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

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

☒ Recommended **equipment** to perform maintenance.

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

REQUEST AND INSTRUCTIONS FOR PREPARATION OF STORM WATER FACILITIES MAINTENANCE AGREEMENT

Provide the following information, to enable PDS to prepare the "STORMWATER FACILITIES MAINTENANCE AGREEMENT, WITH EASEMENT AND COVENANTS":

#	Done	Information to be inserted

[1] ☐ County staff document custodian to receive document after recording will be:

_____ _____

Name of Custodian Mail Stop

[2] ☒ Provide applicable Project **Reference Number(s)**:

Tentative Map:	TM/ PDS20XX-LDPIIP- _____
Tentative Parcel Map:	TPM _____
Grading Plan / Grading Permit:	L/PDS20XX-LDGMJ- PDS2024-LDGRMJ-30505
Major Use Permit:	MUP_____
Site Plan:	STP/PDS20XX-3500- PDS2023-STP-0023

[3] ☒ Provide EXACT **name of Owner** [This must be word-for-word, letter-for-letter identical to vesting title information]:

Develyn LLC

Name of Owner

[4] ☒ Indicate the status of the Owner:

☐ a natural person; or

☒ a business entity.

If the Owner is a business entity, then please indicate what type ("a California Corporation", "a [other state] Corporation", "a California General Partnership", "a California Limited Partnership" or "a California Limited Liability Company"):

a California Limited Liability Company

Type of Owner's Business Entity

[5] ☒ Create and attach an “Exhibit A”, which is an accurate Legal Description of the property involved in the entire project

[6] ☒ Provide brief Description of Type of Project [E.g. "a 100-unit residential subdivision"]:

9 building self storage project
Project Description

[7] ☒ Provide official name, number and date of plan or drawing which shows the BMPs in detail [“Improvement Plans”, "Site Plan", "Grading Plans" etc.]:

GRADING PLANS	PDS2024-LDGRMJ-30505	
Type of Plan	Plan Number	Plan Date

[8] ☒ Create and attach an “Exhibit B”, using the format of Attachment 2 (“BMP MAINTENANCE PROGRAM”) as an example.

[9] ☒ Create and attach an “Exhibit C”, which shows the Project Site Vicinity; the Project Site Map; and a map for each BMP and it’s Drainage Management Area. Samples of each of these map types are shown in Figure I.11-1 through Figure I.11-4.

[10] ☒ Provide Name and Address of the person who the Owner designates as his/her/its Agent for administration of the Agreement and receipt of notices:

Name: David Bohorquez

Address: 28010 Valley Center Road, Valley Center, CA 92082

[11] Advise us whether or not the project is a **Common Interest Development**:

☒ No ☐ Yes

[12] ☒ Provide the Name(s) and title(s) of **persons who will sign** agreement for the Owner:

DAVID BOHORQUEZ
Name
MANAGER
Title

If the Owner (see #3 above) is a natural person, County Counsel will assume that person will sign the agreement, and will so provide in the signature block. If the Owner is a business entity, please indicate the names and titles of all persons who will sign on behalf of the business entity.

A sample signature block for a corporation would look like:

"Clean Water, Inc., a California Corporation

By: _____ _____
John Q. Adams, President Date

By: _____ _____
Adam Q. Johns, Secretary Date"

Develyn LLC, a California Limited Liability Company

By: David Bohorquez, Manager

EXHIBIT ‘A’

BEING A PORTION OF PARCELS ‘A’ OF THAT CERTAIN PARCEL OF LAND AS DESCRIBED IN DOCUMENT NO. 2025- _____, RECORDED _____, 2025 AND FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO, THAT IS INTENDED TO MEMORIALIZE THE CERTAIN LOT LINE ADJUSTMENT PDS2024-BC-24-0092 APPROVED BY THE COUNTY OF SAN DIEGO ON _____, 2025, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

EXHIBIT 'B'

Maintenance Overview

Normal Expected Maintenance. Infiltration basins require routine maintenance to: remove accumulated materials such as sediment, trash or debris from the forebay and the basin; maintain vegetation health if the BMP includes vegetation; and maintain integrity of side slopes, inlets, energy dissipators, and outlets. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

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

- The BMP is not drained between storm events. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface or subsurface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the underlying native soils, or clogging of covers applied at the basin surface such as topsoil, mulch, or rock layer. The specific cause of the drainage issue must be determined and corrected. For surface-level basins (i.e., not underground infiltration galleries), surface cover materials can be removed and replaced, and/or native soils can be scarified or tilled to help reestablish infiltration. If it is determined that the underlying native soils have been compacted or do not have the infiltration capacity expected, or if the infiltration surface area is not accessible (e.g., an underground infiltration gallery) the County reviewer shall be contacted prior to any additional repairs or reconstruction.

- Sediment, trash, or debris accumulation has filled the forebay or other pretreatment device within one month, or if no forebay or other pretreatment device is present, has filled greater than 25% of the surface ponding volume within one maintenance cycle. This means the load from the tributary drainage area is too high, reducing BMP function or clogging the BMP. This would require adding a forebay or other pretreatment measures within the tributary area draining to the BMP to intercept the materials if no pretreatment component is present, or increased maintenance frequency for an existing forebay or other pretreatment device. Pretreatment components, especially for sediment, will extend the life of the infiltration basin.

- Erosion due to concentrated storm water runoff flow that is not readily corrected by adding

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erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the County reviewer shall be contacted prior to any additional repairs or reconstruction.

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

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Summary of Standard Inspection and Maintenance

The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district.

Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.

Threshold/Indicator	Maintenance Action	Inspection and Maintenance Frequency
Accumulation of sediment, litter, or debris in forebay and/or basin	Remove and properly dispose of accumulated materials, (without damage to vegetation when applicable).	• Inspect monthly. If the forebay is 25% full* or more in one month, increase inspection frequency to monthly plus after every 0.1-inch or larger storm event. • Remove any accumulated materials found within the infiltration area at each inspection. • When the BMP includes a forebay, materials must be removed from the forebay when the forebay is 25% full*, or if accumulation within the forebay blocks flow to the infiltration area.
Obstructed inlet or outlet structure	Clear blockage.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.

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Threshold/Indicator	Maintenance Action	Inspection and Maintenance Frequency
Poor vegetation establishment (when the BMP includes vegetated surface by design)	Re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintain when needed.
Dead or diseased vegetation (when the BMP includes vegetated surface by design)	Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintain when needed.
Overgrown vegetation (when the BMP includes vegetated surface by design)	Mow or trim as appropriate.	• Inspect monthly. • Maintain when needed.
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system.	• Inspect monthly. • Maintain when needed.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the County reviewer shall be contacted prior to any additional repairs or reconstruction.	• Inspect after every 0.5-inch or larger storm event. If erosion due to storm water flow has been observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintain when needed. If the issue is not corrected by restoring the BMP to the original plan and grade, the County reviewer shall be contacted prior to any additional repairs or reconstruction.

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Threshold/Indicator	Maintenance Action	Inspection and Maintenance Frequency
Standing water in infiltration basin without subsurface infiltration gallery for longer than 24-96 hours following a storm event	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, or removing/replacing clogged or compacted surface treatments and/or scarifying or tilling native soils. Always remove deposited sediments before scarification, and use a hand-guided rotary tiller. If it is determined that the underlying native soils have been compacted or do not have the infiltration capacity expected, the County reviewer shall be contacted prior to any additional repairs or reconstruction.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintain when needed.
Standing water in subsurface infiltration gallery for longer than 24-96 hours following a storm event	This condition requires investigation of why infiltration is not occurring. If feasible, corrective action shall be taken to restore infiltration (e.g., flush fine sediment or remove and replace clogged soils). BMP may require retrofit if infiltration cannot be restored. The County reviewer shall be contacted prior to any repairs or reconstruction.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintain when needed.

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Threshold/Indicator	Maintenance Action	Inspection and Maintenance Frequency
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by dispersing to nearby landscaping; second, make corrective measures as applicable to restore BMP drainage to prevent standing water. For subsurface infiltration galleries, ensure access covers are tight fitting, with gaps or holes no greater than 1/16 inch, and/or install barriers such as inserts or screens that prevent mosquito access to the subsurface storage. If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria because the underlying native soils have been compacted or do not have the infiltration capacity expected, the County reviewer shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.	• Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintain when needed
Damage to structural components such as weirs, inlet or outlet structures	Repair or replace as applicable.	• Inspect annually. • Maintain when needed.

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

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Gravelpave^2- Maintenance Guide

Exposed Rings:

Gravelpave^2 typically requires very little maintenance. However, in high traffic areas, such as aisle ways or entrances/exits, the rings may become exposed as gravel is either compacted or transported. In these areas, it is suggested that excess gravel in surrounding areas is broomed or raked into the areas with poor coverage.

Potholes:

Potholes may appear if the base course was not of appropriate depth, compacted properly, or base gravel has been "pumped" into clay soil below. Should this occur, remove the affected section by vacuuming the gravel from the rings, unfasten the snap fastener, bring the base course to the proper grade and compaction put the Gravelpave^2 pieces back in place, anchor and refill the rings.

Tire or plow damage:

Gravelpave^2 can be damaged in the event that proper techniques/equipment are not used during plowing. Another cause of damage is when motorists "peel-out" on the Gravelpave^2. In both of these instances, the Gravelpave^2 may be reused is the damage does not significantly affect the shape or strength of the parts, otherwise new product will need to be used. To repair, simply re-level and compact the base course and then re-anchor and refill the rings.

Leave/Garbage:

Leaves and garbage should be raked, vacuumed (being careful not to remove the gravel), or moved with a blower. These materials should not be allowed to decay over the winter since organic matter will stimulate weed growth and reduce porosity.

Weed Growth:

To attack any occasional weeds that may locate within the Gravelpave^2 installation, spray them with a weed killer (such as Roundup^{TM}) and remove them when dead.

Summary of Standard Inspection and Maintenance

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Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.

Threshold/Indicator	Maintenance Action	Inspection and Maintenance Frequency
Preventive vacuum/regenerative air street sweeping	Pavement should be swept with a vacuum power or regenerative air street sweeper to maintain infiltration through paving surface	• Schedule/perform this preventive action at least twice per year.
Accumulation of sediment, litter, or debris on permeable pavement surface	Remove and properly dispose of accumulated materials. Inspect tributary area for exposed soil or other sources of sediment and apply stabilization measures to sediment source areas. Apply source control measures as applicable to sources of litter or debris.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Weeds growing on/through the permeable pavement surface	Remove weeds and add features as necessary to prevent weed intrusion. Use non-chemical methods (e.g., instead of pesticides, control weeds using mechanical removal, physical barriers, and/or physical changes in the surrounding area adjacent to pavement that will preclude weed intrusion into the pavement).	• Inspect monthly. • Remove any weeds found at each inspection.

EXHIBIT 'B'

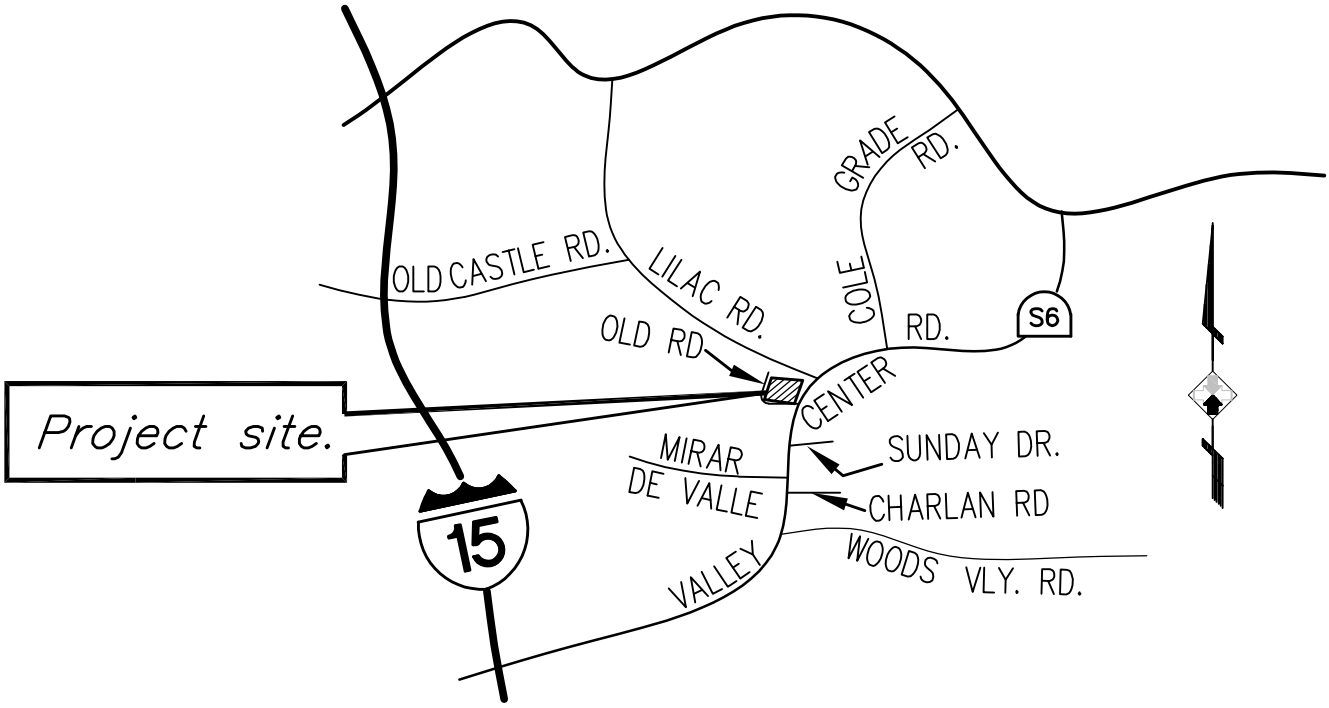
Threshold/Indicator	Maintenance Action	Inspection and Maintenance Frequency
Standing water in permeable paving area or subsurface infiltration gallery for longer than 24-96 hours following a storm event	This condition requires investigation of why infiltration is not occurring. If feasible, corrective action shall be taken to restore infiltration (e.g., pavement should be swept with a vacuum power or regenerative air street sweeper to restore infiltration rates, clear underdrains if underdrains are present). BMP may require retrofit if infiltration cannot be restored. The County reviewer shall be contacted prior to any repairs or reconstruction.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintain when needed.
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by dispersing to nearby landscaping; second, make corrective measures as applicable to restore BMP drainage to prevent standing water. If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria because the underlying native soils have been compacted or do not have the infiltration capacity expected, the County reviewer shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.	• Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintain when needed.

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Threshold/Indicator	Maintenance Action	Inspection and Maintenance Frequency
Obstructed underdrain or outlet structure (when the BMP includes outflow control structure for runoff released from subsurface storage via underdrain(s))	Clear blockage.	• Inspect if standing water is observed for longer than 24-96 hours following a storm event. • Maintain when needed.
Damage to structural components of subsurface infiltration gallery such as weirs or outlet structures	Repair or replace as applicable.	• Inspect annually. • Maintain when needed.
Damage to permeable paving surface (e.g., cracks, settlement, misaligned paver blocks, void spaces between paver blocks need fill materials replenished)	Repair or replace damaged surface as appropriate.	• Inspect annually. • Maintain when needed.

EXHIBIT 'B'

EXHIBIT 'C'



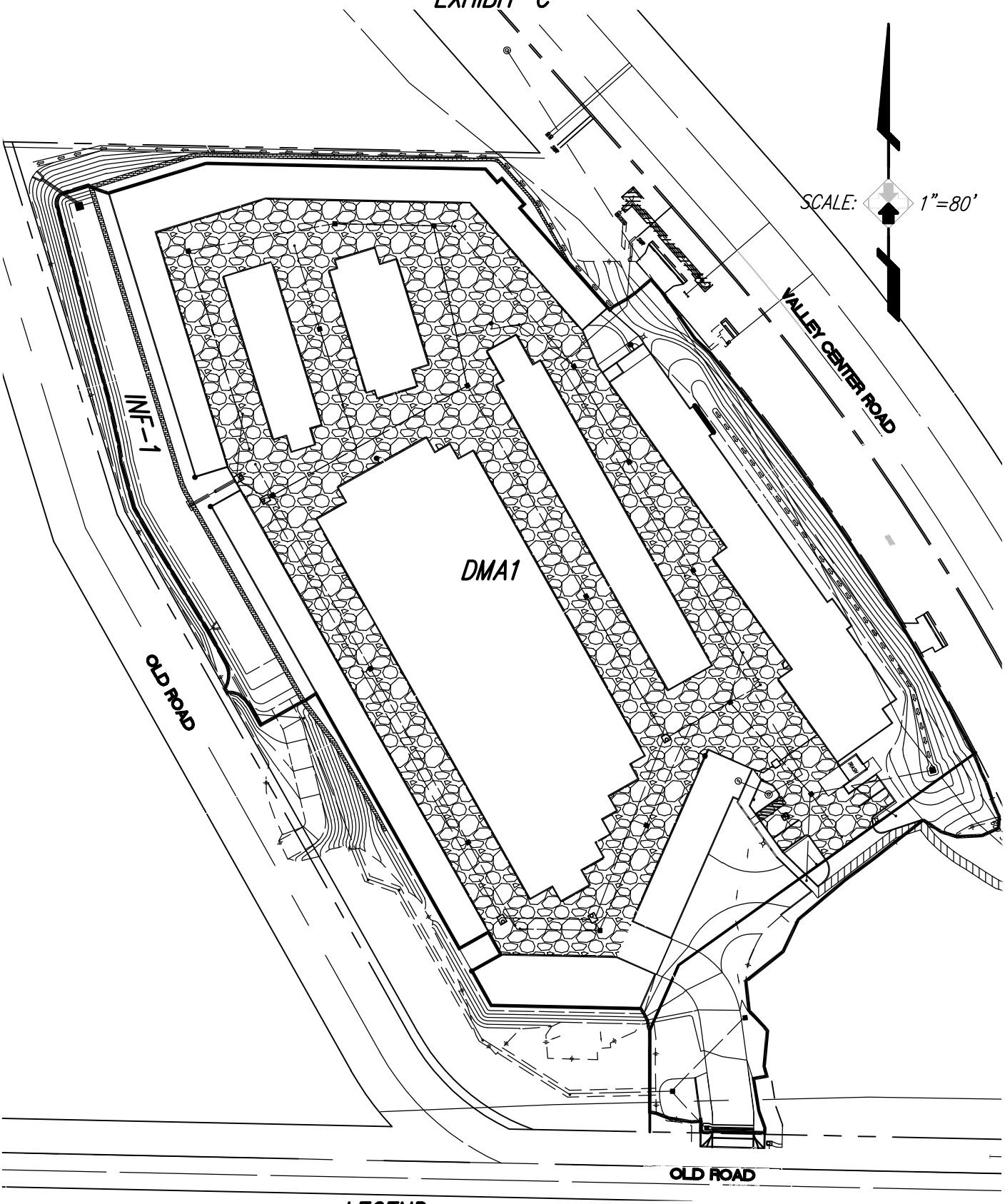
INTERSECTION OF VALLEY CENTER ROAD AND OLD ROAD. 0.0 MILES TO INTERSECTION.

VICINITY MAP

NOT TO SCALE

THOMAS BROS. 1090–E3

EXHIBIT 'C'



LEGEND:

DMA1	DMA BASIN IDENTIFICATION	———	DRAINAGE MANAGEMENT AREA BOUNDARY (DMA)
INF-1	INFILTRATION BASIN		
▣	GRATED CATCH BASIN W/ FLOW CONTROL ORIFICES	▭	GRAVELPAVE2