

**\*PRELIMINARY CEQA SWQMP\***



**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)



<b>Project Information</b>		<b>Development type</b> <input type="checkbox"/> New development <input checked="" type="checkbox"/> Redevelopment	
<b>Project Name</b>	DIB2 - Sweetwater		
<b>Project Address</b>	2500 Sweetwater Springs Blvd Spring Valley, CA 91978		
<b>Assessor's Parcel # (APN)</b>	505-231-35-00 & 5050-231-03-00		
<b>Permit # / Record ID</b>	PDS2021-STP-21-019		
<b>Project category (select one)</b>	<input type="checkbox"/> Commercial	<input type="checkbox"/> Minor subdivision*	
	<input checked="" type="checkbox"/> Industrial	<input type="checkbox"/> Major subdivision*	
	<input type="checkbox"/> Single family residential lot	<input type="checkbox"/> Multi-family residential*	
	*If residential, is a Homeowners Association (HOA) proposed? <input type="checkbox"/> Yes <input type="checkbox"/> No		

<b>Project Applicant / Project Proponent</b>	
<b>Name</b>	Scott Murray, Greenlaw
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<b>SWQMP Preparer</b>	
<b>Name</b>	Sam Bellomio
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<b>PE Number (if applicable)</b>	90818

<b>Preparer's Certification</b>	
<p>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.</p> <p>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.</p>	
<b>Signature</b>	
<b>Date</b>	July 27, 2021

<b>COUNTY ACCEPTED</b>	
SWQMP Approved By:	Approval Date:
* NOTE* Approval does not constitute compliance with regulatory requirements.	



*“The purpose of this drainage study/SWQMP is to show that this project will meet drainage study requirements and MS-4 requirements and provide treatment for the improvements via facilities shown on PDS2021-LDGRMJ-30332. The EOW and applicant are aware that Final Engineering level Review will need to confirm the adequacy of the analysis provided and may require revisions as needed”*

## 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
<input checked="" type="checkbox"/> <b>a. SWQMP addresses the entire project</b>	No additional documentation.
<input type="checkbox"/> <b>b. SWQMP implements requirements of an earlier master SWQMP submittal</b>	Include a copy of the previous submittal as <b>Attachment 4</b> .
<input type="checkbox"/> <b>c. First of multiple SWQMP submittals</b>	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
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**Preliminary Design / Planning / CEQA**

1	11/23/2020	Initial Submittal
2	1/15/2021	Change of Project Scope
3	Date	Summary of Change
No.	Date	Summary of Change

**Final Design**

1	3/18/2021	Initial Submittal
2	5/5/2021	2nd Submittal
3	Date	Summary of Change
No.	Date	Summary of Change

**Plan Changes**

1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
No.	Date	Summary of Change

## General Directions

Note: These directions may be omitted from the print version of the SWQMP submittal.

### ① Scope of SWQMP Submittal and Submittal Record (inside front cover)

Use the **Submittal Scope** table to document the scope of activities covered under this SWQMP Form. Select one of the three options presented.

- **SWQMP addresses the entire project.** If this SWQMP form addresses the entire project from start to finish, additional documentation of the project scope is not required.
- **SWQMP implements requirements of an earlier master SWQMP submittal.** If this SWQMP Form implements requirements identified in an earlier master SWQMP Form, documentation of those earlier requirements must be provided. Include a copy of the previous submittal as **Attachment 4**.
- **First of multiple SWQMP submittals.** If this is the first of multiple SWQMP submittals, use the spaces provided under Part c to identify and briefly describe which project elements are addressed in this submittal and which ones will be addressed in future submittals. For example, this PDP addresses only streets and roads, but individual lots will be documented in future submittals.

Use the **Submittal Record** table to list the dates of any updates to the SWQMP or construction plans. Briefly describe key changes from previous versions. If responding to plan check comments, note this in the entry and attach the responses as applicable.

### ② PDP SWQMP Submittal Checklist

The checklist on Page 1 summarizes the tables and attachments to be included with this PDP SWQMP submittal. It should be filled out after completing the remainder of the form. Tables and attachments with boxes already checked () are required for all projects. All tables are required. The applicability of attachments not already checked will be identified during the completion of this form.

### ③ Attachment 1: Stormwater Intake Form

Submit a copy of your completed **Storm Water Intake Form** as **Attachment 1**.

### ④ Tables 1, 2, and 3: Baseline Site Design and Source Control BMPs

**Table 1 Completion:** Complete **Table 1** to document existing and proposed site features and the BMPs to be implemented for them. All BMPs must be implemented **where applicable and feasible**. Applicability is generally assumed if a feature exists or is proposed.

**Table 2 Completion:** **Table 2** is not required for Small Residential Projects. Applicants should check the box at the top of the table to confirm it does not apply.

*Small Residential Projects* are those requiring *either*: a Building Permit, Minor Residential Grading Permit, or Site Plan Permit for a single family home; *or* a Tentative Parcel Map Permit for up to 4 single family homes and a remainder parcel.

All other projects must complete **Table 2** to identify applicable requirements for documenting pollutant-generating sources/ features and source control BMPs.

BMPs must be implemented for **Table 1** and **2** features **where feasible**. Leaving the box for a BMP unchecked means it will not be implemented (either partially or fully) either because it is inapplicable or infeasible. Explanations must be provided in **Table 3**. Tables 1 and 2 both provide specific instructions on when explanations are required.

## ⑤ Attachment 5: Existing Site and Drainage Description

Complete **Attachment 5** to provide a description of (1) the existing pre-development condition of the site, and (2) existing and proposed drainage conditions for the site. If required, include a copy of the site Drainage Study with Attachment 5.

## ⑥ Structural Performance Standards

Determine which Structural Performance Standards apply to the PDP, where they apply, and which compliance strategies you will use to satisfy them. Record your selections in **Table 4** as follows.

**Table 4, Part A.1, Selection of Standards:** First select the standards that apply to the project.

- *Pollutant control plus hydromodification* Select if the PDP is not exempt from hydromodification management requirements. It must satisfy both the Pollutant Control Performance Standard (BMPDM Section 2.2) and the Hydromodification Management Performance Standard (BMPDM Section 2.3).
- *Pollutant control only* Select if the PDP is exempt from hydromodification management requirements per BMPDM Section 6.1. Document the exemption in **Attachment 9**.

**Table 4, Part A.2, Application of Standards:** Next indicate where on the site the standards apply.

- If this is a **New Development Project**, the standards apply to all impervious surfaces on the site.
- If this is a **Redevelopment Project**, their applicability will depend on the ratio of created or replaced impervious areas to existing impervious areas (see BMPDM Section 1.7). Complete the calculations in the table to determine your obligation. The **percent (%) impervious created or replaced (c)** is determined by dividing the **impervious area created or replaced (b)** by the **existing impervious area (a)** and multiplying the result by 100.
  - **If c is 50% or more:** The standards apply to all impervious surfaces on the site (a + b).
  - **If c is less than 50%:** The standards apply only to created or replaced impervious surfaces (b only).

**Table 4, Part B.1: Summary of Required Attachments (1 through 5)**

Use this part of the table to summarize which of Attachments 1 through 5 will be included with the SWQMP submittal. If you are completing an **electronic version** of this form, your selections will be automatically recorded based on your previous input. If you are completing a **hard copy** of this form, you must manually select Attachments 3 and 4 as applicable (see pages 4 and 6). Note that Attachments 1,2, and 5 are required for all projects.

**Table 4, Part B.2: Selection of Compliance Strategies**

Complete Part B.2 to document which compliance options will be used to satisfy the applicable standards for the site. Before doing so, you must determine which option will be used for each DMA. The following four potential design options are presented in detail in BMPDM Chapters 5 and 6.

1. **Self-mitigating DMAs** (BMPDM Section 5.2.1)
2. **De Minimis DMAs** (BMPDM Section 5.2.2)
3. **Self-retaining DMAs** (BMPDM Section 5.2.3)
4. **Structural BMPs**
  - Pollutant Control BMPs (BMPDM Sections 5.4)
  - Hydromodification BMPs (BMPDM Chapter 6)
  - Alternative Compliance Project (BMPDM Section 1.8)

Only one compliance option may be used per individual DMA. Regardless of which option is selected for any DMA, it must fully satisfy the applicable standard(s) determined in Part A.1.

On the left side of Part B, check the applicable boxes for each compliance option to be used.

### ⑦ **Summary of Additional Required Attachments (6 through 12)**

You must complete and submit each attachment identified for the compliance options selected. Applicable attachments are listed to the right of each compliance option. If you are completing an **electronic version** of this form, the required attachments for each design option will automatically be selected when you choose the compliance option. As noted above, these selections will also be recorded on the PDP SWQMP Submittal Checklist (Page 1). If you are completing a **hard copy** of this form, you will need to manually check the boxes for each applicable attachment on both pages.

Note that Attachment 9 (Critical Coarse Sediment Yield Areas) is required for all PDPs. If the PDP is exempt from hydromodification requirements, the exemption must be documented in Attachment 9.

### ⑧ **Table 5: Critical Coarse Sediment Yield Area Requirements**

Complete **Table 5** to select a compliance pathway for addressing Critical Coarse Sediment Yield Area (CCSYA) requirements for the PDP. See BMPDM Appendix H for additional description of requirements and options. Document Table 5 selections, including hydromodification management exemptions, in **Attachment 9**.

### ⑨ **Tables 6 and 7: Temporary Construction Phase BMPs**

Complete **Table 6** to document the minimum construction BMPs to be implemented for the project. Each BMP must be implemented **where applicable and feasible**. At least one BMP must be selected for each construction activity listed in the table (except Erosion Control for Disturbed Slopes, which requires one BMP per season).

If applicable, use **Table 7** to describe why BMPs not selected in Table 6 are either infeasible or are only partially feasible. Justifications must be provided for all construction activity types for which NO BMPs were selected. If requested by County staff, also justify why specific individual BMPs were not selected.

### ⑩ **Attachment 2: DMA Exhibits and Construction Plans**

Exhibits and construction plan sets incorporating all applicable site features, activities, and BMPs identified in **Tables 1, 2, and 6** must be submitted as **Attachment 2 (DMA Exhibits and Construction Plan Sheets)**. See the Attachment 2 cover sheet for additional instructions.

# 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<sup>1</sup>:** 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.

<sup>1</sup> All SWQMP Attachments are available at [www.sandiego.gov/stormwater](http://www.sandiego.gov/stormwater) under the Development Resources tab, Submittal Templates.

**Table 1 – Baseline BMPs for Existing and Proposed Site Features**

<b>A. BMPs for Existing Natural Site Features (See Fact Sheet BL-1)</b>									
<p>1. Check the boxes below for each existing feature on the site.</p> <p><input type="checkbox"/> Natural waterbodies</p> <p><input type="checkbox"/> Natural storage reservoirs &amp; drainage corridors</p> <p><input checked="" type="checkbox"/> Natural areas, soils, &amp; vegetation (incl. trees)</p>	<p>2. Select the BMPs to be implemented for each identified feature. Explain why any BMP not selected is infeasible in Table 3.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; border-right: 1px dotted black; padding: 5px;"><b>Conserve natural features (SD-G)</b></td> <td style="width: 50%; text-align: center; padding: 5px;"><b>Provide buffers around waterbodies (SD-H)</b></td> </tr> <tr> <td style="border-right: 1px dotted black; text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> </tr> <tr> <td style="border-right: 1px dotted black; text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;">---</td> </tr> <tr> <td style="border-right: 1px dotted black; text-align: center; padding: 5px;"><input checked="" type="checkbox"/></td> <td style="text-align: center; padding: 5px;">---</td> </tr> </table>	<b>Conserve natural features (SD-G)</b>	<b>Provide buffers around waterbodies (SD-H)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	<input checked="" type="checkbox"/>	---
<b>Conserve natural features (SD-G)</b>	<b>Provide buffers around waterbodies (SD-H)</b>								
<input type="checkbox"/>	<input type="checkbox"/>								
<input type="checkbox"/>	---								
<input checked="" type="checkbox"/>	---								
<b>B. BMPs for Common Impervious Outdoor Site Features (See Fact Sheet BL-2)</b>									
<p>1. Check the boxes below for each proposed feature.</p> <p><input type="checkbox"/> Streets and roads</p> <p><input checked="" type="checkbox"/> Sidewalks &amp; walkways</p> <p><input checked="" type="checkbox"/> Parking areas &amp; lots</p> <p><input checked="" type="checkbox"/> Driveways</p> <p><input type="checkbox"/> Patios, decks, &amp; courtyards</p> <p><input type="checkbox"/> Hardcourt recreation areas</p> <p><input type="checkbox"/> Other:</p>	<p><b>a. Direct runoff to pervious areas (SD-B)</b></p> <p><input type="checkbox"/></p> <p><input checked="" type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><b>b. Construct surfaces from permeable materials (SD-I)</b></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><b>c. Minimize the size of impervious areas</b></p> <p><input checked="" type="checkbox"/> Check this box to confirm that all impervious areas on the site will be minimized where feasible.</p> <p><i>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.</i></p>						
<b>C. <input type="checkbox"/> BMPs for Rooftop Areas: Check this box if rooftop areas are proposed and select at least one BMP below. (See Fact Sheet BL-3)</b>									
<p><i>If no BMPs are selected, explain why they are infeasible in Table 3.</i></p>									
<p><b>1. Direct runoff to pervious areas (SD-B)</b></p> <p><input type="checkbox"/></p>	<p><b>2. Install green roofs (SD-C)</b></p> <p><input type="checkbox"/></p>	<p><b>3. Install rain barrels (SD-E)</b></p> <p><input type="checkbox"/></p>							
<b>D. <input checked="" type="checkbox"/> BMPs for Landscaped Areas: Check this box if landscaping is proposed and select at least one BMP below. (See Fact Sheet BL-4)</b>									
<p><i>If no BMPs are selected, explain why they are infeasible in Table 3.</i></p>									
<p><b>1. Sustainable Landscaping (SD-K)</b></p> <p><input checked="" type="checkbox"/></p>									

**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  ( <input type="checkbox"/> 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 <sup>2</sup> )			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 <sup>3</sup> (SC-D)	Containment system (SC-E)	Stormwater S-BMP or SSD-BMP <sup>4</sup>	Other <sup>5</sup>
<input checked="" type="checkbox"/> Trash & Refuse Storage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Materials & Equipment Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Loading & Unloading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	---	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Fueling	<input type="checkbox"/>	<input type="checkbox"/>	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Maintenance & Repair	<input type="checkbox"/>	<input type="checkbox"/>	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Vehicle & Equipment Cleaning	<input type="checkbox"/>	<input type="checkbox"/>	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other:	<input type="checkbox"/>	<input type="checkbox"/>	---	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Select one option for each feature below:

• <b>Storm drain inlets and catch basins ...</b>	<input type="checkbox"/> are not proposed	<input checked="" type="checkbox"/> will be labeled with stenciling or signage to discourage dumping <b>(SC-F)</b>
• <b>Educational BMP Signage ...</b>	<input checked="" type="checkbox"/> are not proposed	<input type="checkbox"/> will be labeled with educational signage for BMP <b>(SC-G)</b>
• <b>Interior work surfaces, floor drains, &amp; sumps ...</b>	<input type="checkbox"/> are not proposed	<input checked="" type="checkbox"/> will not discharge directly or indirectly to the MS4 or receiving waters
• <b>Drain lines (e.g., air conditioning, boiler, etc.) ...</b>	<input type="checkbox"/> are not proposed	<input checked="" type="checkbox"/> will not discharge directly or indirectly to the MS4 or receiving waters
• <b>Fire sprinkler test water ...</b>	<input type="checkbox"/> are not proposed	<input checked="" type="checkbox"/> 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.

<sup>2</sup> Each BMP is required where feasible. If none are selected for any feature, explain why they are infeasible in Table 3.

<sup>3</sup> Separate wastewater agency approvals may be required.

<sup>4</sup> 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.

<sup>5</sup> Describe other proposed options for managing stormwater discharges in Table 3.

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

<input type="checkbox"/> <b>Check here if no explanations or justifications for Table 1 or 2 BMPs are required.</b>		
<ul style="list-style-type: none"> <li>• <b>Required Justifications:</b> Provide explanations of BMP inapplicability and/or infeasibility as indicated per Tables 1 and 2.</li> <li>• <b>If Requested:</b> Justify why specific BMPs will not be implemented or will only be partially implemented.</li> <li>• <b>Additional Explanation:</b> Describe any proposed features and/or BMPs not listed in Tables 1 or 2.</li> </ul>		
<b>BMP-Feature Combination</b>		<b>Explanation</b>
Feature	Parking Areas & Lots	The project is redevelopment. To minimize grading, proposed parking lots follow existing drainage patterns and are space constrained. Parking lot runoff will be conveyed through project BMP via storm drain system.
BMP	SD-B & SD-I	
Feature	Driveways	The US Elevator Road driveway slopes down toward the facility building. Runoff from this driveway will be intercepted by a trench drain and conveyed through the project BMP via storm drain system.  Space constraints exist at the Sweetwater Springs Road driveway. Runoff from this driveway would drain to a proposed inlet and conveyed through the project BMP via storm drain system.
BMP	SD-B & SD-I	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	

**Table 4: DMA Structural Compliance Strategies and Documentation**

Part A – Selection and Application Structural Performance Standards							
<b>1. Selection of Standards</b> (select one; see BMPDM Section 6.1) <input checked="" type="checkbox"/> a. Pollutant control + hydromodification <input type="checkbox"/> b. Pollutant control only (project is exempt from hydromodification requirements)							
<b>2. Application of Structural Performance Standards</b> (select one; see BMPDM Section 1.7) <input type="checkbox"/> <b>New Development Projects:</b> Standards apply to <u>all</u> impervious surfaces. <input checked="" type="checkbox"/> <b>Redevelopment Projects:</b> Complete the calculations below. Select <u>the</u> applicable scenario based on the results.							
<b>a. Existing impervious area (ft<sup>2</sup>)</b>		<b>b. Impervious area created / replaced (ft<sup>2</sup>)</b>		<b>c. % Impervious created / replaced [(b/a)*100]</b>			
584,793		536,967		92%			
<input checked="" type="checkbox"/> <i>Scenario 1: c is 50% or more:</i> Performance standards apply to all impervious surfaces (a + b). <input type="checkbox"/> <i>Scenario 2: c is less than 50%:</i> Performance standards apply only to created or replaced impervious surfaces (b only).							
Part B – Compliance Strategies and Required Attachments							
<b>1. Complete and submit each of the applicable attachments on the right.</b>	<b>Att. 1</b>	<b>Att. 2</b>	<b>Att. 3</b>	<b>Att. 4</b>	<b>Att. 5</b>		
	Storm Water Intake Form <input checked="" type="checkbox"/>	DMA Exhibits and Construction Plan Sheets <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	Previous SWQMP Submittals (see inside cover) <input type="checkbox"/>	Existing Site and Drainage Description <input checked="" type="checkbox"/>		
<b>2. Indicate each compliance strategy below that will be used for one or more DMAs on the site.</b>  <input checked="" type="checkbox"/> Self-mitigating DMAs (BMPDM Section 5.2.1) <input type="checkbox"/> De Minimis DMAs (BMPDM Section 5.2.2) <input type="checkbox"/> Self-retaining DMAs (BMPDM Section 5.2.3)  <b>Structural BMPs (select all that apply)</b> <input checked="" type="checkbox"/> Pollutant Control BMPs (BMPDM Section 5.4) <input checked="" type="checkbox"/> Hydromodification Control BMPs (BMPDM Chapter 6) <input type="checkbox"/> Alternative Compliance Project (BMPDM Section 1.8)	<b>Att. 6</b>	<b>Att. 7</b>	<b>Att. 8</b>	<b>Att. 9</b>	<b>Att. 10</b>	<b>Att. 11</b>	<b>Att. 12</b>
	DMAs without Structural BMPs	DMAs w/ Structural Pollutant Control BMPs	DMAs w/ Structural Hydromod. BMPs	Critical Coarse Sediment Yield Areas	BMP Installation Verification Form	Maintenance Agreements/ Plans	Alternative Compliance Projects
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> <b>Please check this box after you complete this list. Corresponding attachments will be automatically selected on the right.</b>							

• 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<sup>6</sup>**

- 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**

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<sup>6</sup> 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 <sup>7</sup>	County of San Diego
<input checked="" type="checkbox"/> <b>Erosion Control for Disturbed Slopes</b> (choose at least 1 per season)		
<input type="checkbox"/> Vegetation Stabilization Planting <sup>8</sup> (Summer)	SS-2, SS-4	
<input checked="" type="checkbox"/> Hydraulic Stabilization Hydroseeding (Summer)	SS-4	
<input checked="" type="checkbox"/> Bonded Fiber Matrix or Stabilized Fiber Matrix <sup>9</sup> (Winter)	SS-3	
<input type="checkbox"/> Physical Stabilization Erosion Control Blanket (Winter)	SS-7	
<input checked="" type="checkbox"/> <b>Erosion control for disturbed flat areas (slope &lt; 5%)</b>		
<input checked="" type="checkbox"/> County Standard Lot Perimeter Protection Detail	SC-2	PDS 659 <sup>10</sup>
<input type="checkbox"/> Use of Item A erosion control measures on flat areas	SS-3, SS-4, SS-7	
<input type="checkbox"/> County Standard Desilting Basin (must treat all site runoff)	SC-2	PDS 660 <sup>11</sup>
<input type="checkbox"/> Mulch, straw, wood chips, soil application	SS-6, SS-8	
<input type="checkbox"/> <b>Energy dissipation (required to control velocity for concentrated runoff or dewatering discharge)</b>		
<input type="checkbox"/> Energy Dissipater Outlet Protection	SS-10	RSD D-40 <sup>12</sup>
<input checked="" type="checkbox"/> <b>Sediment control for all disturbed areas</b>		
<input checked="" type="checkbox"/> Silt Fence	SC-1	
<input checked="" type="checkbox"/> Fiber Rolls (Straw Wattles)	SC-5	
<input checked="" type="checkbox"/> Gravel & Sand Bags	SC-6, SC-8	
<input type="checkbox"/> Dewatering Filtration	NS-2	
<input checked="" type="checkbox"/> Storm Drain Inlet Protection	SC-10	
<input type="checkbox"/> Engineered Desilting Basin (sized for 10-year flow)	SC-2	
<input checked="" type="checkbox"/> <b>Preventing offsite tracking of sediment</b>		
<input checked="" type="checkbox"/> Stabilized Construction Entrance	TC-1	
<input type="checkbox"/> Construction Road Stabilization	TC-2	
<input type="checkbox"/> Entrance/Exit Tire Wash	TC-3	
<input type="checkbox"/> Entrance/Exit Inspection & Cleaning Facility	TC-1	
<input checked="" type="checkbox"/> Street Sweeping and Vacuuming	SC-7	
<input checked="" type="checkbox"/> <b>Materials Management</b>		
<input checked="" type="checkbox"/> Material Delivery & Storage	WM-1	
<input checked="" type="checkbox"/> Spill Prevention and Control	WM-4	
<input checked="" type="checkbox"/> <b>Waste Management<sup>13</sup></b>		
<input checked="" type="checkbox"/> Waste Management Concrete Waste Management	WM-8	
<input checked="" type="checkbox"/> Solid Waste Management	WM-5	
<input checked="" type="checkbox"/> Sanitary Waste Management	WM-9	
<input checked="" type="checkbox"/> Hazardous Waste Management	WM-6	

<sup>7</sup> 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>

<sup>8</sup> 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.

<sup>9</sup> All slopes over three feet must have established vegetative cover prior to final permit approval.

<sup>10</sup> County PDS 659. Standard Lot Perimeter Protection Design System (Bldg. Division)

<sup>11</sup> County PDS 660. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Bldg. Division

<sup>12</sup> Regional Standard Drawing D-40 – Rip Rap Energy Dissipater (also acceptable for velocity reduction)

<sup>13</sup> 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**

<input type="checkbox"/> Check here if no explanations or justifications for Table 6 BMPs are required.		
<b>Justifications for Table 6 Temporary Construction Phase BMPs</b> <ul style="list-style-type: none"> <li>• <b>Required Justifications:</b> Justify all construction activity types for which NO BMPs were selected.</li> <li>• <b>If Requested:</b> Justify why specific individual BMPs were not selected.</li> <li>• <b>Additional Explanation:</b> Describe any proposed features and/or BMPs not listed in Table 6.</li> </ul>		
Activity Type / BMP		Explanation
Activity Type	Energy Dissipation	There is an existing energy dissipater outlet protection on-site.
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.

<b>Part 1. Project Information</b>			
Project Name:	DIB2 - Sweetwater		
Record ID (Permit) No(s):	PDS2021-LDGRMJ-30332		
Assessor's Parcel No(s):	505-231-3500		
Street Address (or Intersection):	2500 Sweetwater Springs Rd		
City, State, Zip:	Spring Valley, CA 91978		
<b>Part 2. Applicant / Project Proponent Information</b>			
Name:	Scott Murray		
Company:	Greenlaw		
Street Address:	18301 Von Karman, Suite 250		
City, State, Zip:	Irvine, CA 92612		
Phone Number:	949.331.1338		
Email:	<a href="mailto:scott@greenlawpartners.com">scott@greenlawpartners.com</a>		
<b>Part 3. Required Information for All Development Projects</b>			
<b>(A)</b>	<b>1. Existing (pre-development) impervious surfaces (ft<sup>2</sup>)</b>	<b>2. Created or replaced impervious surfaces (ft<sup>2</sup>)</b>	<b>3. Total disturbed area (acres or ft<sup>2</sup>)</b>
	584,793	536,967	381,842
<b>(B)</b>	<input checked="" type="checkbox"/> Check here and provide a WDID# if this project is subject to the California Construction General Permit (Order No. 2009-0009-DWQ) <sup>1</sup>		<b>WDID # (if issued)</b>
			In process

<b>For County Use Only</b>	<b>Reviewed By:</b>	<b>Review Date:</b>
<input type="checkbox"/> Standard SWQMP	<input type="checkbox"/> PDP SWQMP	<input type="checkbox"/> Green Streets PDP Exemption SWQMP

<sup>1</sup> Available at: [https://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.html](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****→ Standard SWQMP Form**

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

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

1. Project is part of an existing PDP, OR
2. Project does any of the following:
- a. Creates or replaces a total of 10,000 ft<sup>2</sup> or more of impervious surface
  - b. Creates or replaces a combined total of 5,000 ft<sup>2</sup> 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 ft<sup>2</sup> 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 ft<sup>2</sup> or more of impervious surface
  - e. Disturbs one or more acres of land (43,560 ft<sup>2</sup>) and is expected to generate pollutants post-construction
  - f. Is a redevelopment project that creates or replaces 5,000 ft<sup>2</sup> or more of impervious surface on a site already having at least 10,000 ft<sup>2</sup> of impervious surface

 **Green Streets PDP Exemption<sup>2</sup>****→ 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:

Date:

- **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.

<sup>2</sup> **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

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- 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.

<b>Sub-attachments</b>	<b>Requirement</b>
<input checked="" type="checkbox"/> <b>2.1: DMA Exhibits</b>	All PDPs
<input checked="" type="checkbox"/> <b>2.2: Individual Structural BMP DMA Mapbook</b>	PDPs with structural BMPs
<input checked="" type="checkbox"/> <b>2.3: Construction Plan Sets</b>	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 #:	DMA and HMP Exhibit	
<b>A. Features required for all exhibits</b>		
<b>1. Existing Site Features</b>		
<input checked="" type="checkbox"/> Underlying hydrologic soil group (A, B, C, D)	<input checked="" type="checkbox"/> Topography and impervious areas	
<input checked="" type="checkbox"/> Approximate depth to groundwater	<input checked="" type="checkbox"/> Existing drainage network, directions, and offsite connections	
<input checked="" type="checkbox"/> Natural hydrologic features		
<b>2. Drainage Management Area (DMA) Information</b>		
<input checked="" type="checkbox"/> Proposed drainage network, directions, and offsite connections	<input checked="" type="checkbox"/> DMA boundaries, ID numbers, areas, and type (structural BMP, de minimis, etc.)	
<b>3. Proposed Site Changes, Features, and BMPs</b>		
<input checked="" type="checkbox"/> Proposed demolition and grading	<input checked="" type="checkbox"/> Construction BMPs <sup>2</sup>	
<input checked="" type="checkbox"/> Group 1, 2, and 3 Features <sup>1</sup>	<input checked="" type="checkbox"/> Baseline source control BMPs	
<input checked="" type="checkbox"/> Group 4 Features	<input checked="" type="checkbox"/> Baseline source control BMPs	
<b>B. Proposed Features and BMPs Specific to Individual SWQMP Attachments<sup>3</sup></b>		
<input type="checkbox"/> Attachment 6	<input type="checkbox"/> SSD-BMP impervious dispersion areas	
	<input type="checkbox"/> SSD-BMP tree wells	
<input checked="" type="checkbox"/> Attachment 7	<input checked="" type="checkbox"/> Structural pollutant control BMPs	
<input checked="" type="checkbox"/> Attachment 8	<input checked="" type="checkbox"/> Structural hydromodification management BMPs	
	<input checked="" type="checkbox"/> Point(s) of Compliance (POC) for hydromodification management	
	<input checked="" type="checkbox"/> Proposed drainage boundary and drainage area to each POC	
<input checked="" type="checkbox"/> Attachment 9	<input type="checkbox"/> Onsite CCSYAs	<input type="checkbox"/> Bypass of onsite CCSYAs
		<input type="checkbox"/> Bypass of upstream offsite CCSYAs

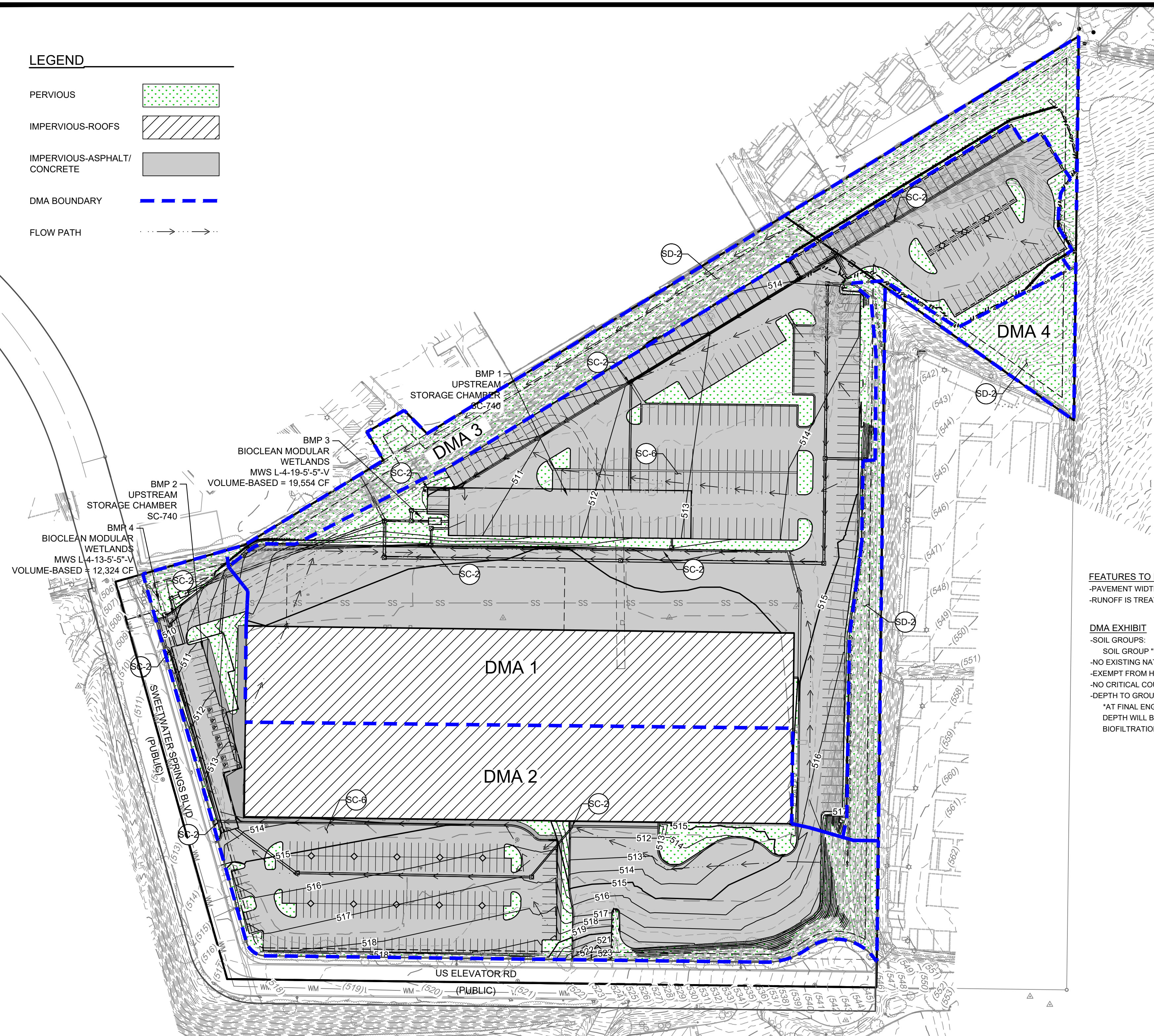
<sup>1</sup> Group 1-4 features and baseline BMPs from PDP SWQMP Tables 2 and 3.

<sup>2</sup> Minimum Construction Stormwater BMPs from PDP SWQMP Table 7.

<sup>3</sup> Identify the location, ID numbers, type, and size/detail of BMPs.

**LEGEND**

- PERVIOUS
- IMPERVIOUS-ROOFS
- IMPERVIOUS-ASPHALT/ CONCRETE
- DMA BOUNDARY
- FLOW PATH



SOURCE CONTROL BMPS			
SOURCE CONTROL BMP REQUIREMENT	APPLIED	IMPLEMENTATION	
SC-1 PREVENTION OF ILLICIT DISCHARGES	YES	USE OF EFFECTIVE IRRIGATION PRACTICES	
SC-2 STORM DRAIN STENCILING OR SIGNAGE	YES	STENCIL EVERY INLET WITH PROHIBITIVE LANGUAGE "NO DUMPING" LEADS TO WATERWAYS" AND "NO CONTAMINE" IN SPANISH	
SC-5 PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL	YES	ALL TRASH AREAS WILL BE PROTECTED AND TRASH CANS EQUIPPED WITH HINGED LIDS.	
SC-6 ADDITIONAL BMPS BASE ON POTENTIAL SOURCES OF RUNOFF POLLUTANTS	YES	ONSITE STORM DRAIN INLET STENCILS WILL BE MAINTAINED, LANDSCAPE/PESTICIDE USE WILL BE MINIMIZED, REFUSE AREAS WILL BE COVERED, LOADING DOCKS WILL BE COVERED BY A ROOF OVERHANG, AND PARKING LOTS WILL BE SWEEPED REGULARLY.	

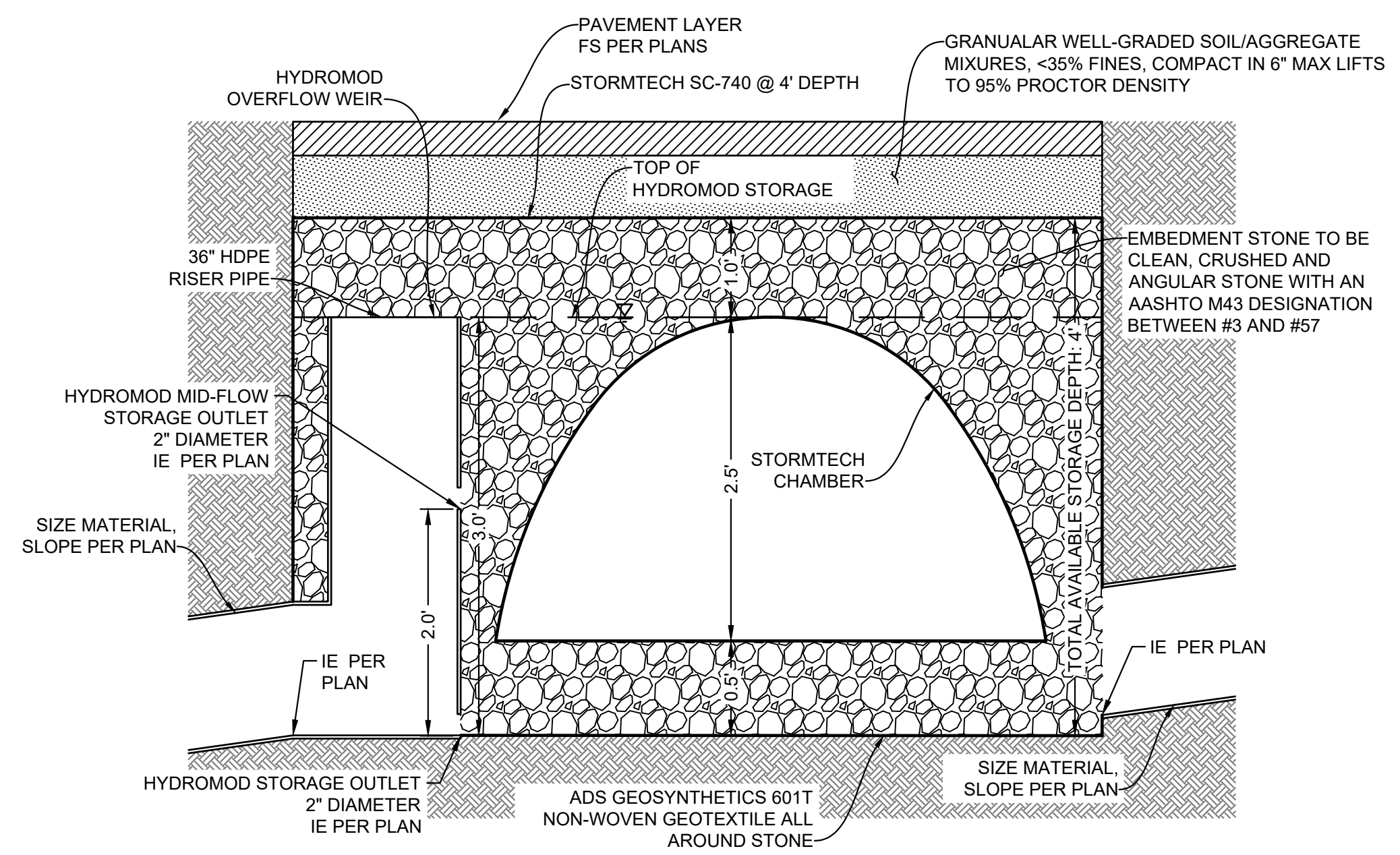
SITE DESIGN BMPS			
SITE DESIGN BMP REQUIREMENT	APPLIED	IMPLEMENTATION	
SD-1 MAINTAIN NATURAL DRAINAGE PATH AND HYDROLOGIC FEATURES	YES	SITE WAS DESIGNED TO MIMIC AND MINIMIZE CHANGES TO EXISTING AND NATURAL DRAINAGE PATH	
SD-2 CONSERVE NATURAL AREAS, SOILS, AND VEGETATION	YES	EXISTING SOIL AND VEGETATION WILL BE CONSERVED.	
SD-3 MINIMIZE IMPERVIOUS AREA	YES	PAVEMENT WIDTHS ARE KEPT TO MINIMUM DESIGN STANDARDS.	
SD-4 MINIMIZE SOIL COMPACTION	YES	MINIMIZE SOIL COMPACTION TO LANDSCAPED AREAS.	
SD-7 LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES	YES	LANDSCAPING WILL USE NATIVE OR DROUGHT TOLERANT SPECIES.	

**FEATURES TO MINIMIZE IMPERVIOUSNESS:**  
 -PAVEMENT WIDTHS ARE KEPT TO MINIMUM DESIGN STANDARDS  
 -RUNOFF IS TREATED BY BIOFILTRATION

**DMA EXHIBIT**  
 -SOIL GROUPS:  
 SOIL GROUP "D"  
 -NO EXISTING NATURAL HYDROLOGIC FEATURES  
 -EXEMPT FROM HYDROMODIFICATION MANAGEMENT MEASURES  
 -NO CRITICAL COURSE SEDIMENT AREAS TO BE PROTECTED  
 -DEPTH TO GROUNDWATER EXPECTED TO BE BETWEEN 10FT AND 14FT\*  
 \*AT FINAL ENGINEERING, INFILTRATION RATES AND GROUNDWATER DEPTH WILL BE VERIFIED. IF GROUNDWATER DEPTH IS <10', THE BIOFILTRATION BASIN SHALL BE LINED.

**DMA-TABULAR SUMMARY**

DMA ID	AREA (ACRES)	AREA (SF)	PERVIOUS AREAS (SF)	IMPERVIOUS AREAS (SF)	IMPERVIOUS PERCENTAGE (%)	DMA TYPE
DMA 1	8.53	371,392	41,975	329,417	88.7	DRAINS TO BMP1: STORMTECH AND BIOCLEAN MODULAR WETLANDS
DMA 2	5.73	249,471	42,242	207,229	83.1	DRAINS TO BMP 2: STORMTECH AND BIOCLEAN MODULAR WETLANDS
DMA 3	1.52	66,008	65,687	321	0.5	SELF-MITIGATING
DMA 4	0.90	39,317	39,317	0	0	SELF-MITIGATING



**STORMTECH SC-740 HYDROMOD VOLUME STORAGE (PVT)**  
 NTS

**WARE MALCOMB**  
 LEADING DESIGN FOR COMMERCIAL REAL ESTATE

3911 sorrento valley blvd  
 suite 120  
 san diego, ca 92121  
 p 858.638.7277  
 waremalcomb.com

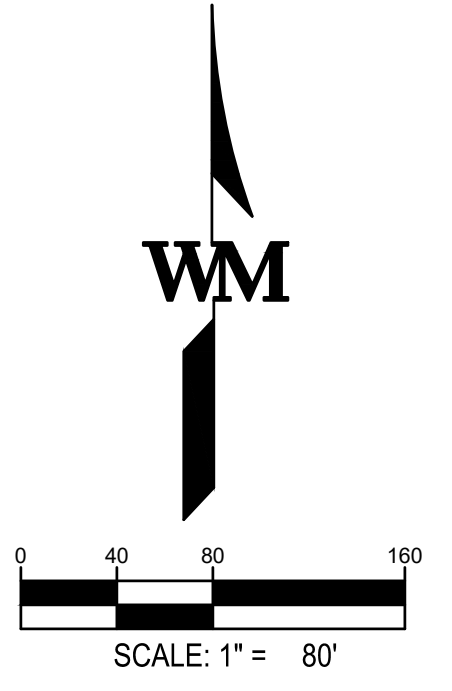
REGISTERED PROFESSIONAL ENGINEER  
**LUCAS A. CORSE**  
 No. 72588  
 CIVIL  
 STATE OF CALIFORNIA  
 Jul 26, 2021

FOR AND ON BEHALF  
 OF WARE MALCOMB

**DMA EXHIBIT**

DMA EXHIBIT REMARKS	
NO.	DATE

JOB NO.:	DAL20-5012
PA / PM:	SMB
DRAWN BY:	SMB
DATE:	01/13/21
PLOT DATE:	

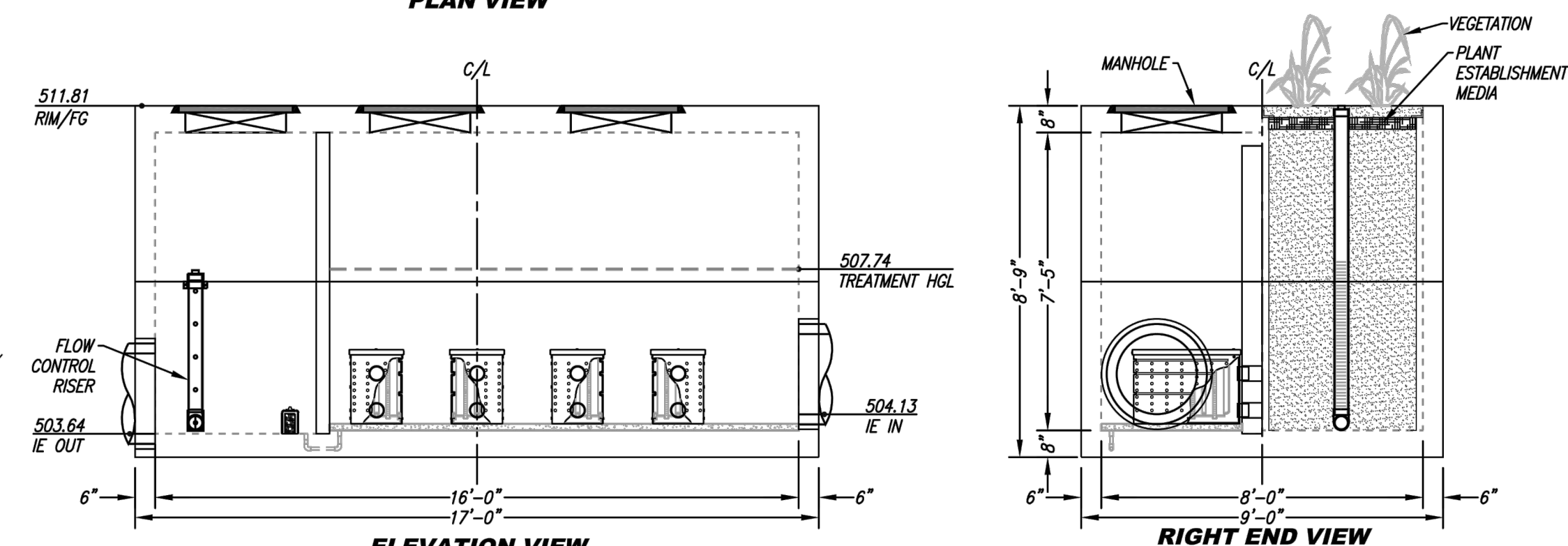
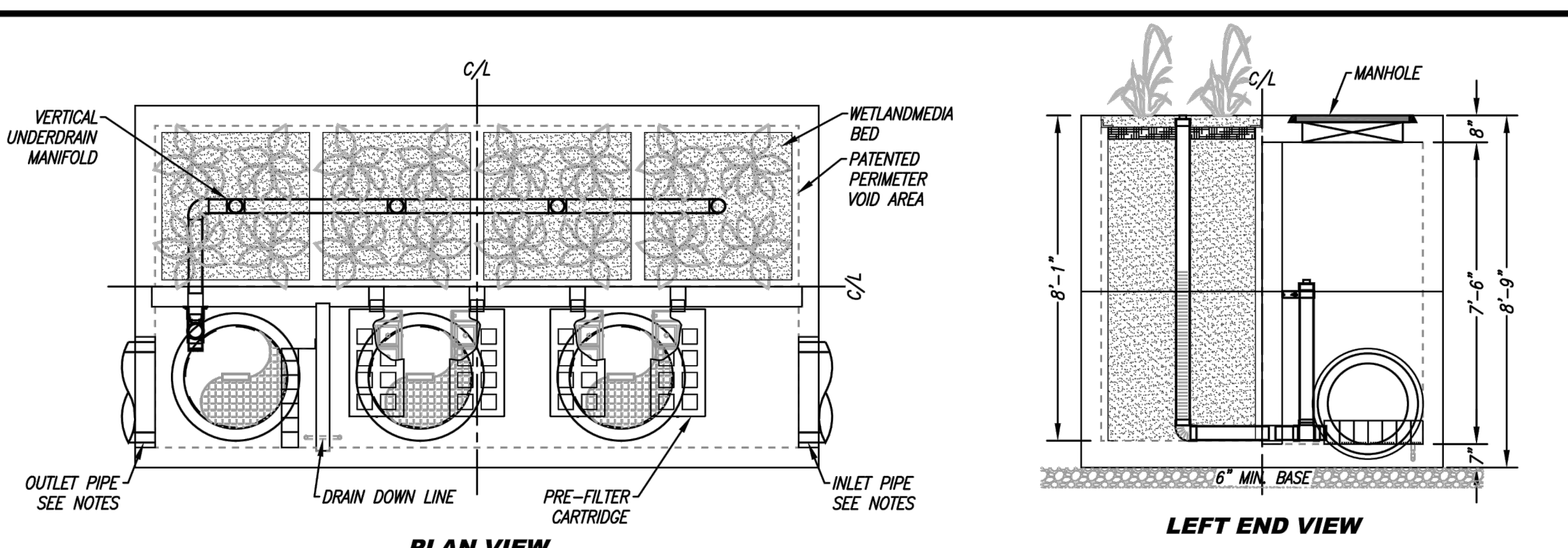


THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WARE MALCOMB AND SHALL NOT BE USED ON ANY OTHER WORK EXCEPT BY AGREEMENT WITH WARE MALCOMB. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WARE MALCOMB PRIOR TO THE COMMENCEMENT OF ANY WORK.

SITE SPECIFIC DATA			
PROJECT NUMBER	12255		
PROJECT NAME	DIB2 - SWEETWATER		
PROJECT LOCATION	SPRING VALLEY, CA		
STRUCTURE ID	MWS B		
TREATMENT REQUIRED			
VOLUME BASED (CF)	19,554	FLOW BASED (CFS)	N/A
TREATMENT HGL AVAILABLE (FT)	N/A		
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	OFFLINE		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	504.13	HDPE	24"
OUTLET PIPE	503.64	HDPE	24"
PRE-TREATMENT		BIOFILTRATION	DISCHARGE
RIM ELEVATION	511.81	511.81	511.81
SURFACE LOAD	PEDESTRIAN	N/A	PEDESTRIAN
FRAME & COVER	2EA #30"	OPEN PLANTER	#30"
WETLANDMEDIA VOLUME (CY)	16.40		
ORIFICE SIZE (DIA. INCHES)	5 EA. #1.09"		
ORIFICE SPACING (FT)	0.82		

- INSTALLATION NOTES**
- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
  - UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
  - CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
  - CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
  - VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
  - CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

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



**LOW INFLOW PIPE DISCLOSURE:**  
IT IS RECOMMENDED THAT A SUFFICIENT VARIATION IN ELEVATION BETWEEN THE INLET AND OUTLET BE PROVIDED TO ALLOW FOR ACCUMULATION OF SEDIMENT IN THE PRE-TREATMENT CHAMBER. FAILURE TO DO SO MAY RESULT IN BLOCKAGE AT INFLOW POINT(S) WHICH MAY CAUSE UPSTREAM FLOODING.

REQUIRED TREATMENT VOLUME (CF)	19,554
DRAINDOWN DURATION (HOURS)	27
AVERAGE DISCHARGE RATE PER MWS UNIT(GPM)	89.21
OPERATING HEAD (FT)	4.1
WETLANDMEDIA INFILTRATION RATE (IN/HR)	37
WETLANDMEDIA LOADING RATE (GPM/SF)	0.37

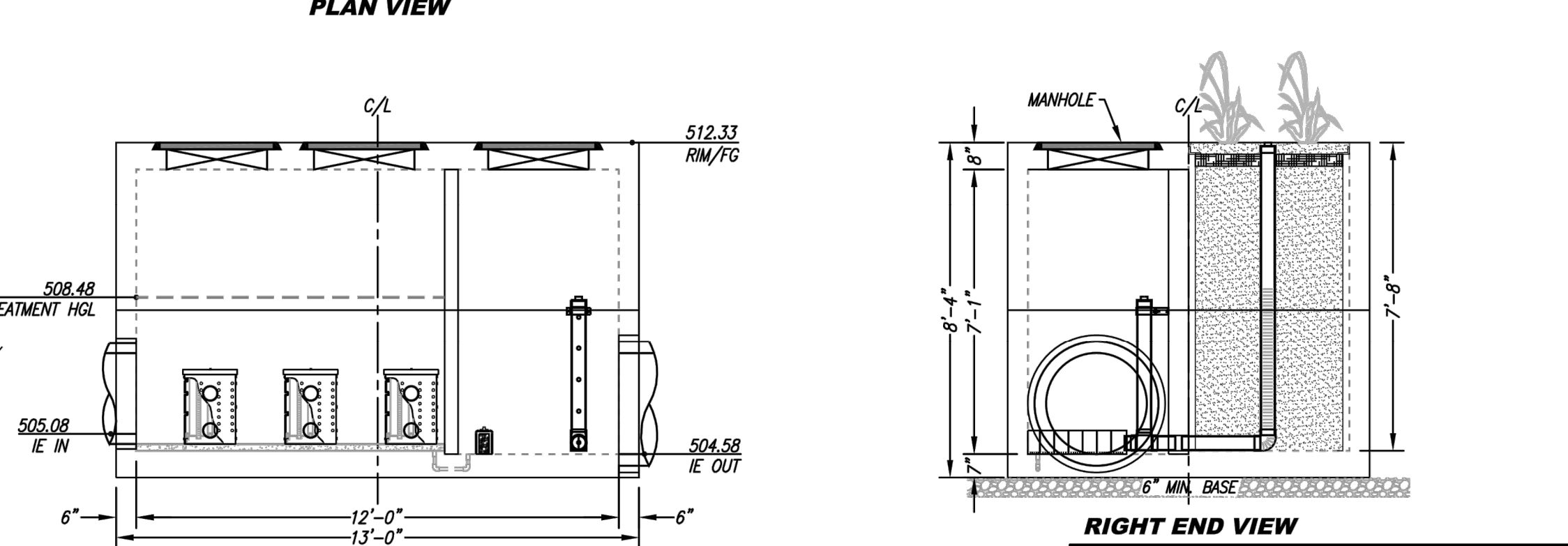
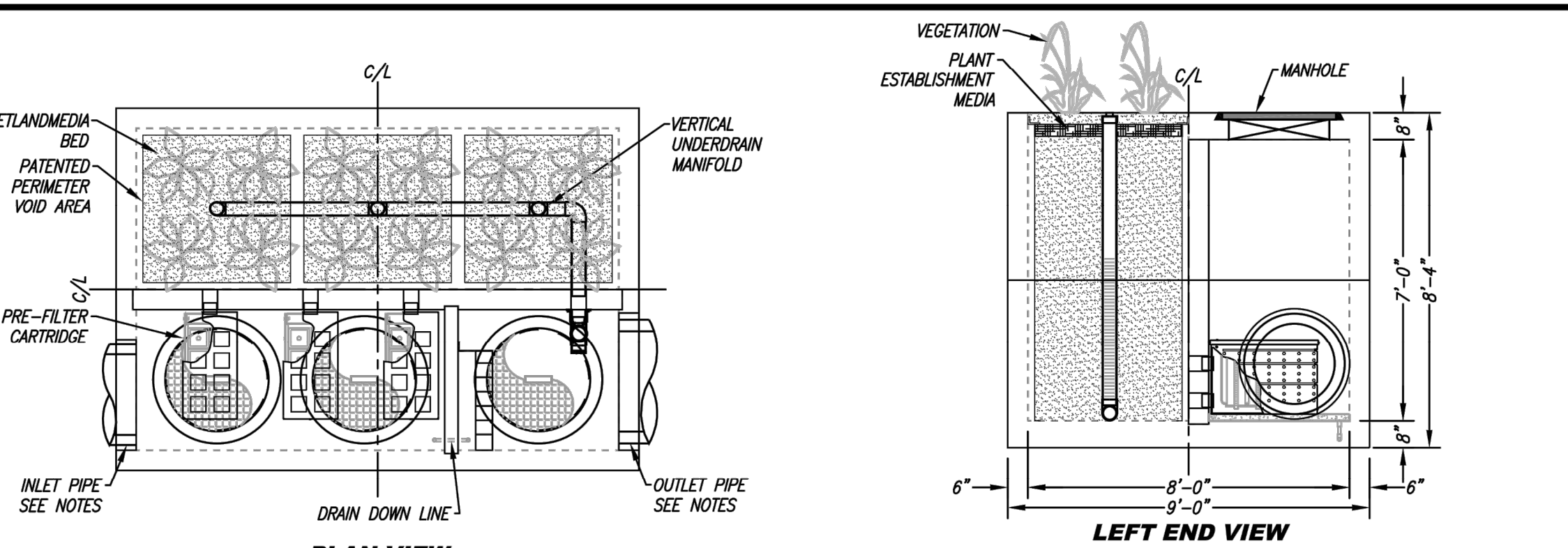
**MWS-L-8-16-8'-1"-V  
STORMWATER BIOFILTRATION SYSTEM  
STANDARD DETAIL**

BMP 3 - BIOCLEAN MODULAR WETLANDS  
NOT TO SCALE

SITE SPECIFIC DATA			
PROJECT NUMBER	12255		
PROJECT NAME	DIB2 - SWEETWATER		
PROJECT LOCATION	SPRING VALLEY, CA		
STRUCTURE ID	MWS A		
TREATMENT REQUIRED			
VOLUME BASED (CF)	12,324	FLOW BASED (CFS)	N/A
TREATMENT HGL AVAILABLE (FT)	N/A		
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	OFFLINE		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	505.08	HDPE	24"
OUTLET PIPE	504.58	HDPE	30"
PRE-TREATMENT		BIOFILTRATION	DISCHARGE
RIM ELEVATION	512.33	512.33	512.33
SURFACE LOAD	PEDESTRIAN	N/A	PEDESTRIAN
FRAME & COVER	2EA #30"	OPEN PLANTER	#30"
WETLANDMEDIA VOLUME (CY)	11.66		
ORIFICE SIZE (DIA. INCHES)	5 EA. #1.10"		
ORIFICE SPACING (FT)	0.72		

- INSTALLATION NOTES**
- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
  - UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
  - CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
  - CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
  - VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
  - CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

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



**LOW INFLOW PIPE DISCLOSURE:**  
IT IS RECOMMENDED THAT A SUFFICIENT VARIATION IN ELEVATION BETWEEN THE INLET AND OUTLET BE PROVIDED TO ALLOW FOR ACCUMULATION OF SEDIMENT IN THE PRE-TREATMENT CHAMBER. FAILURE TO DO SO MAY RESULT IN BLOCKAGE AT INFLOW POINT(S) WHICH MAY CAUSE UPSTREAM FLOODING.

REQUIRED TREATMENT VOLUME (CF)	12,324
DRAINDOWN DURATION (HOURS)	17
AVERAGE DISCHARGE RATE PER MWS UNIT(GPM)	89.51
OPERATING HEAD (FT)	3.6
WETLANDMEDIA INFILTRATION RATE (IN/HR)	56
WETLANDMEDIA LOADING RATE (GPM/SF)	0.56

**MWS-L-8-12-7'-8"-V  
STORMWATER BIOFILTRATION SYSTEM  
STANDARD DETAIL**

BMP 4 - BIOCLEAN MODULAR WETLANDS  
NOT TO SCALE

**WARE MALCOMB**  
LEADING DESIGN FOR COMMERCIAL REAL ESTATE

3911 sorrento valley blvd  
suite 120  
san diego, ca 92121  
p 858.638.7277  
waremalcomb.com



Jul 26, 2021  
FOR AND ON BEHALF  
OF WARE MALCOMB

DMA EXHIBIT

DMA EXHIBIT

JOB NO.:	DAL20-5012
PA / PM:	SMB
DRAWN BY:	SMB
DATE:	01/13/21
PLOT DATE:	

SHEET  
**2**  
Sheet 1 of 2

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WARE MALCOMB AND SHALL NOT BE USED ON ANY OTHER WORK EXCEPT BY AGREEMENT WITH WARE MALCOMB. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WARE MALCOMB PRIOR TO THE COMMENCEMENT OF ANY WORK.

## 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.

<input type="checkbox"/>	<u>All Mapbooks are attached</u>
<input checked="" type="checkbox"/>	<u>All Mapbooks are in Attachment 11</u>

## 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	Major Grading Plans
<b>Required Information<sup>4</sup></b>	
<input checked="" type="checkbox"/> Structural BMP(s) and Significant Site Design BMPs (if applicable) with ID numbers. <input checked="" type="checkbox"/> The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit. <input checked="" type="checkbox"/> Details and specifications for construction of Structural BMP(s) and Significant Site Design BMPs (if applicable). <input checked="" type="checkbox"/> Signage indicating the location and boundary of structural BMP(s) as required by County staff. <input checked="" type="checkbox"/> How to access the structural BMP(s) to inspect and perform maintenance. <input checked="" type="checkbox"/> 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). <input checked="" type="checkbox"/> 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). <input checked="" type="checkbox"/> Recommended equipment to perform maintenance. <input checked="" type="checkbox"/> When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management. <input checked="" type="checkbox"/> Include landscaping plan sheets (if available) showing vegetation requirements for vegetated structural BMP(s). <input checked="" type="checkbox"/> All BMPs must be fully dimensioned on the plans. <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> Include all source control and site design measures described in the SWQMP. <input checked="" type="checkbox"/> Include all construction BMPs described in the SWQMP.	

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



**GRADING PLAN NOTES**

**PRE-CONSTRUCTION MEETING:** (Prior to Precast/Construction Conference, and prior to any clearing, grubbing, trenching, grading, or any land disturbances.)

**PALEO-GR#1 PALEONTOLOGICAL MONITORING**

**INTENT:** In order to comply with the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources, a Paleontological Resources Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The Project Paleontologist shall attend the pre-construction meeting with the contractors to explain and coordinate the requirements of the grading monitoring program. The Project Paleontologist shall monitor during the original cutting of previously undisturbed deposits for the project, both on and off site, the Qualified Paleontological Resources Monitor shall be on-site to monitor as determined necessary by the Qualified Paleontologist. The grading monitoring program shall comply with the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources. **DOCUMENTATION:** The applicant shall have the contracted Project Paleontologist attend the preconstruction meeting to explain the monitoring requirements. **TIMING:** Prior to Preconstruction Conference, and prior to any clearing, grubbing, trenching, grading, or any land disturbances this condition shall be completed. **MONITORING:** The [DPW, PDCI] shall attend the preconstruction conference and confirm the attendance of the approved Project Paleontologist.

**DURING CONSTRUCTION:** (The following actions shall occur throughout the duration of the grading construction):

**PALEO-GR#2 PALEONTOLOGICAL MONITORING**

**INTENT:** In order to comply with the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources, a Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The Project Paleontologist shall monitor during the original cutting of previously undisturbed deposits for the project, both on and off site. The Qualified Paleontological Resources Monitor shall be on-site to monitor as determined necessary by the Qualified Paleontologist. The grading monitoring program shall comply with the following requirements during grading:

- If paleontological resources are encountered during grading/excavation, the following shall be completed:
  - The Paleontological Resources Monitor shall have the authority to direct, divert, or halt any grading/excavation activity until such time that the sensitivity of the resource can be determined, and the appropriate salvage implemented.
  - The Monitor shall immediately contact the Project Paleontologist.
  - The Project Paleontologist shall contact the Planning & Development Services immediately.
  - The Project Paleontologist shall determine if the discovered resource is significant. If it is not significant, grading and/or excavation may resume.
- If the paleontological resource is significant or potentially significant, the Project Paleontologist or Paleontological Resources Monitor, under the supervision of the Project Paleontologist, shall complete the following tasks in the field:
  - Salvage unearthed fossil remains, including simple excavation of exposed specimens or, if necessary, plaster-jacketing of large and/or fragile specimens or more elaborate quarry excavations of highly fossiliferous deposits.
  - Record stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including a detailed description of all paleontological localities within the project site, as well as the lithology of fossil-bearing strata within the measured stratigraphic section, if feasible, and photographic documentation of the geologic setting; and
  - Transport the collected specimens to a laboratory for processing (cleaning, curation, cataloging, etc.).

**PALEO-GR#3 PALEONTOLOGICAL MONITORING**

**INTENT:** In order to comply with the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources, a Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The Project Paleontologist shall prepare one of the following letters upon completion of the grading activities that require monitoring:

- If no paleontological resources were discovered submit a "No Fossils Found" letter from the grading contractor to the [PDS, PDCI] 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.
- 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 curatorial phase of the monitoring.
 

**DOCUMENTATION:** The applicant shall submit the letter report to the [PDS, PDCI] 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:** The [PDS, PDCI] shall review the final negative letter report or field monitoring memo for compliance with the project MMRP, and inform [DPW, PDCI] 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).

**PALEO-GR#4 PALEONTOLOGICAL MONITORING**

**INTENT:** In order to comply with the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Paleontological Resources, a Grading Monitoring Program shall be implemented. **DESCRIPTION OF REQUIREMENT:** The Project Paleontologist shall prepare a final report that documents the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program if resources were encountered during grading. The report shall include the following:

- If paleontological resources were discovered, the following tasks shall be completed by or under the supervision of the Project Paleontologist:
  - Prepare collected fossil remains for curation, to include cleaning the fossils by removing the enclosing rock material, stabilizing fragile specimens using glues and other hardeners, if necessary, and repairing broken specimens;
  - Curate catalog and identify all fossil remains to the lowest taxon possible. Inventory specimens, assigning catalog numbers, and enter the appropriate specimen and locality data into a collection database;
  - Submit a detailed report prepared by the Project Paleontologist in the format provided in Appendix D of the County of San Diego's Guidelines for Determining Significance for Paleontological Resources. This report shall identify which accredited institution has agreed to accept the curated fossils. Submit two hard copies of the final Paleontological Resources Mitigation Report to the Director of PDS for final approval of the mitigation, and submit an electronic copy of the complete report in Microsoft Word on a USB drive. In addition, submit one copy of the report to the San Diego Natural History Museum and one copy to the institution that received the fossils;
  - Transfer the cataloged fossil remains and copies of relevant field notes, maps, stratigraphic sections, and photographs to an accredited institution (museum or university) in California that maintains paleontological collections for archival storage and/or display, and submit a "Proof of Transfer of Paleontological Resources" in the form of a letter, from the director of the paleontology department of the accredited institution to the Director of PDS verifying that the curated fossils from the project site have been received by the institution.
- If no resources were discovered, a brief letter to that effect and stating that the grading monitoring activities have been completed, shall be sent to the Director of Planning and Land Use by the Project Paleontologist.

**DOCUMENTATION:** The applicant shall submit the letter report to the [PDS, PDCI] for review and approval. **TIMING:** Prior to the occupancy of any structure or use of the premises, and prior to Final Grading Release (Grading Ordinance SEC 87.421.a.3), the final report shall be completed. **MONITORING:** The [PDS, PDCI] shall review the final report for compliance with the project MMRP, and inform [DPW, PDCI] that the requirement is completed.

- The applicant shall submit the letter report to the [PDS, PDCI] for review and approval. **TIMING:** Prior to the occupancy of any structure or use of the premises, and prior to Final Grading Release (Grading Ordinance SEC 87.421.a.3), the final report shall be completed. **MONITORING:** The [PDS, PDCI] shall review the final report for compliance with the project MMRP, and inform [DPW, PDCI] that the requirement is completed.
- If no resources were discovered, a brief letter to that effect and stating that the grading monitoring activities have been completed, shall be sent to the Director of Planning and Land Use by the Project Paleontologist.

**WARE MALCOMB**

CIVIL ENGINEERING  
 3341 Sorrento Valley Blvd, Suite 120 San Diego, CA 92121  
 P: 619.636.7277 wmalcomb.com

RECORD PLAN  
 BY: LUCY A. COBBE 72888  
 R.C.E. DATE: 06-30-22  
 EXPIRES:

**SOIL MANAGEMENT NOTES**

- SOIL MANAGEMENT PLAN PREPARED BY GEOTECH CONSULTANTS INC. PROJECT NO. 00427-06-04
- SOIL MANAGEMENT PLAN SHALL BE REVIEWED BY THE STATE OF CALIFORNIA PRIOR TO ANY GRADING ACTIVITIES.
  - SOIL MANAGEMENT PLAN SHALL BE REVIEWED BY THE STATE OF CALIFORNIA PRIOR TO ANY GRADING ACTIVITIES.
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**SOIL MANAGEMENT NOTES (CONTINUED)**

- SOIL MANAGEMENT PLAN SHALL BE REVIEWED BY THE STATE OF CALIFORNIA PRIOR TO ANY GRADING ACTIVITIES.
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**6.1 MANAGEMENT OF IMPACTED SOIL**

IMPACTED SOIL SHALL BE SAMPLED AND TESTED FOR CONTAMINATION OF FUEL OILS BY SENDING SELECTED SAMPLES TO AN ACCREDITED LABORATORY FOR ANALYSIS. COMPARISON OF SOIL SAMPLE ANALYTICAL DATA WITH THE SOIL SCREENING AND CHARACTERIZATION CRITERIA INDICATED BELOW WILL DETERMINE IF SOIL IS IMPACTED OR NON-IMPACTED.

IMPACTED SOIL SHALL BE SAMPLED AND TESTED FOR CONTAMINATION OF FUEL OILS BY SENDING SELECTED SAMPLES TO AN ACCREDITED LABORATORY FOR ANALYSIS. COMPARISON OF SOIL SAMPLE ANALYTICAL DATA WITH THE SOIL SCREENING AND CHARACTERIZATION CRITERIA INDICATED BELOW WILL DETERMINE IF SOIL IS IMPACTED OR NON-IMPACTED.

IMPACTED SOIL SHALL BE SAMPLED AND TESTED FOR CONTAMINATION OF FUEL OILS BY SENDING SELECTED SAMPLES TO AN ACCREDITED LABORATORY FOR ANALYSIS. COMPARISON OF SOIL SAMPLE ANALYTICAL DATA WITH THE SOIL SCREENING AND CHARACTERIZATION CRITERIA INDICATED BELOW WILL DETERMINE IF SOIL IS IMPACTED OR NON-IMPACTED.

**COUNTY APPROVED CHANGES**

NO.	DESCRIPTION:	APPROVED BY:	DATE:

BENCH MARK  
 3.25" BRASS DISK STAMPED SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SMR# 2013, LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMAICHA BLVD. SURVEY NO. 22057 AND GEOD. MODEL 12B.

RECORD FROM SAN DIEGO COUNTY PUBLIC WORKS DEPT. WEBSITE: 518.044 - USSF DMIW NAVD 1988 (FEET)

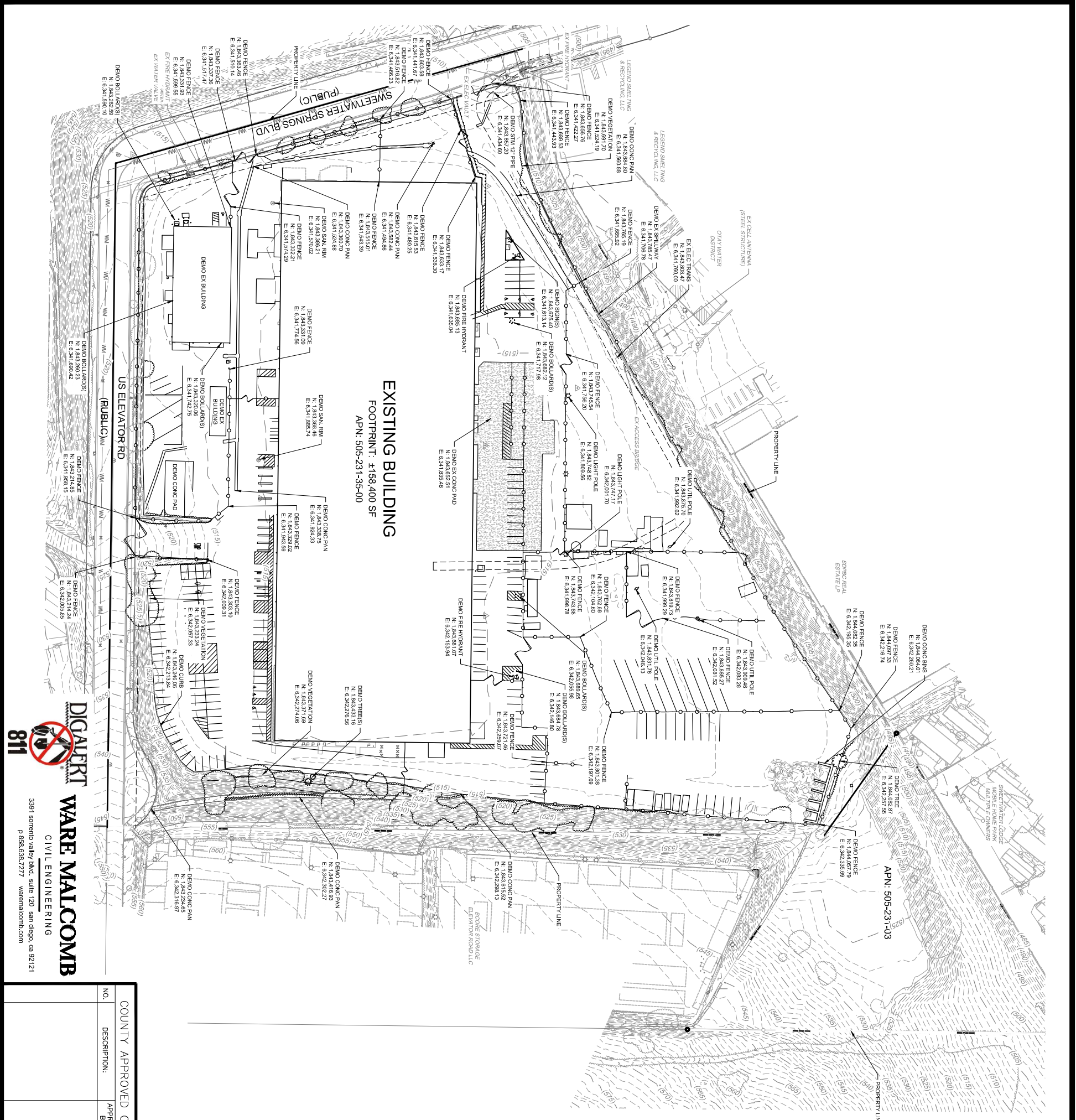
**ADVISORY NOTE ON STORM WATER OBLIGATIONS**

THE APPLICANT SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE SAN DIEGO REGIONAL WATER CONVEYANCE DISTRICT (RWCD) AND THE SAN DIEGO COUNTY WATER CONVEYANCE DISTRICT (WCDC) FOR THE CONSTRUCTION OF STORM WATER COLLECTION, TREATMENT AND CONVEYANCE SYSTEMS. THE APPLICANT SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE SAN DIEGO REGIONAL WATER CONVEYANCE DISTRICT (RWCD) AND THE SAN DIEGO COUNTY WATER CONVEYANCE DISTRICT (WCDC) FOR THE CONSTRUCTION OF STORM WATER COLLECTION, TREATMENT AND CONVEYANCE SYSTEMS. THE APPLICANT SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE SAN DIEGO REGIONAL WATER CONVEYANCE DISTRICT (RWCD) AND THE SAN DIEGO COUNTY WATER CONVEYANCE DISTRICT (WCDC) FOR THE CONSTRUCTION OF STORM WATER COLLECTION, TREATMENT AND CONVEYANCE SYSTEMS.

**PRIVATE CONTRACT**

SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	19 SHEETS
NOTES FOR:		
	<b>DE2 SWEETWATER</b>	
	<b>6500 SWEETWATER BLVD</b>	
	<b>SPRING VALLEY, CA 92078</b>	
DESIGNED BY:	LUCY A. COBBE, R.C.E. 72888	DATE: 06/30/22
CHECKED BY:	LUCY A. COBBE, R.C.E. 72888	
PROJECT NO.:	PS2007-1009M-30332	





**EXISTING BUILDING**  
 FOOTPRINT: 158,400 SF  
 APN: 505-231-35-00

APN: 505-231-03

**DIGART WARE MALCOMB**  
 CIVIL ENGINEERING  
 3391 sorrento valley blvd, suite 120 san diego, ca 92121  
 p 858.638.7277 wwaremalcomb.com

NO.	DESCRIPTION:	APPROVED BY:	DATE:
COUNTY APPROVED CHANGES			

**RECORD PLAN**

BY: LUKE A. COSSBIE DATE: \_\_\_\_\_

R.C.E. 72888

EXPIRES: 06-30-22

BENCH MARK

DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SMRF4, 2013"

LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.

RECORD FROM: SURVEY NO. 22097 AND GEOD. MODEL 128

ELEVATION: 518.044 USSE DATUM: NAD 1988

DATUM: \_\_\_\_\_

**PRIVATE CONTRACT**

SHEET 3 COUNTY OF SAN DIEGO SHEETS 19

DEPARTMENT OF PUBLIC WORKS

DEMOLITION PLAN FOR: DIB2 SWEETWATER

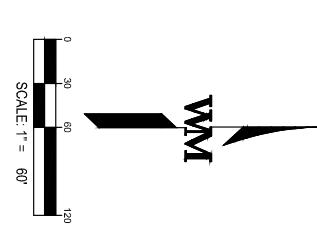
12500 SWEETWATER SPRINGS BLVD.  
 SPRING VALLEY, CA 91788

CALIFORNIA COORDINATE INDEX 202-1779

ENGINEER OF WORKS: \_\_\_\_\_

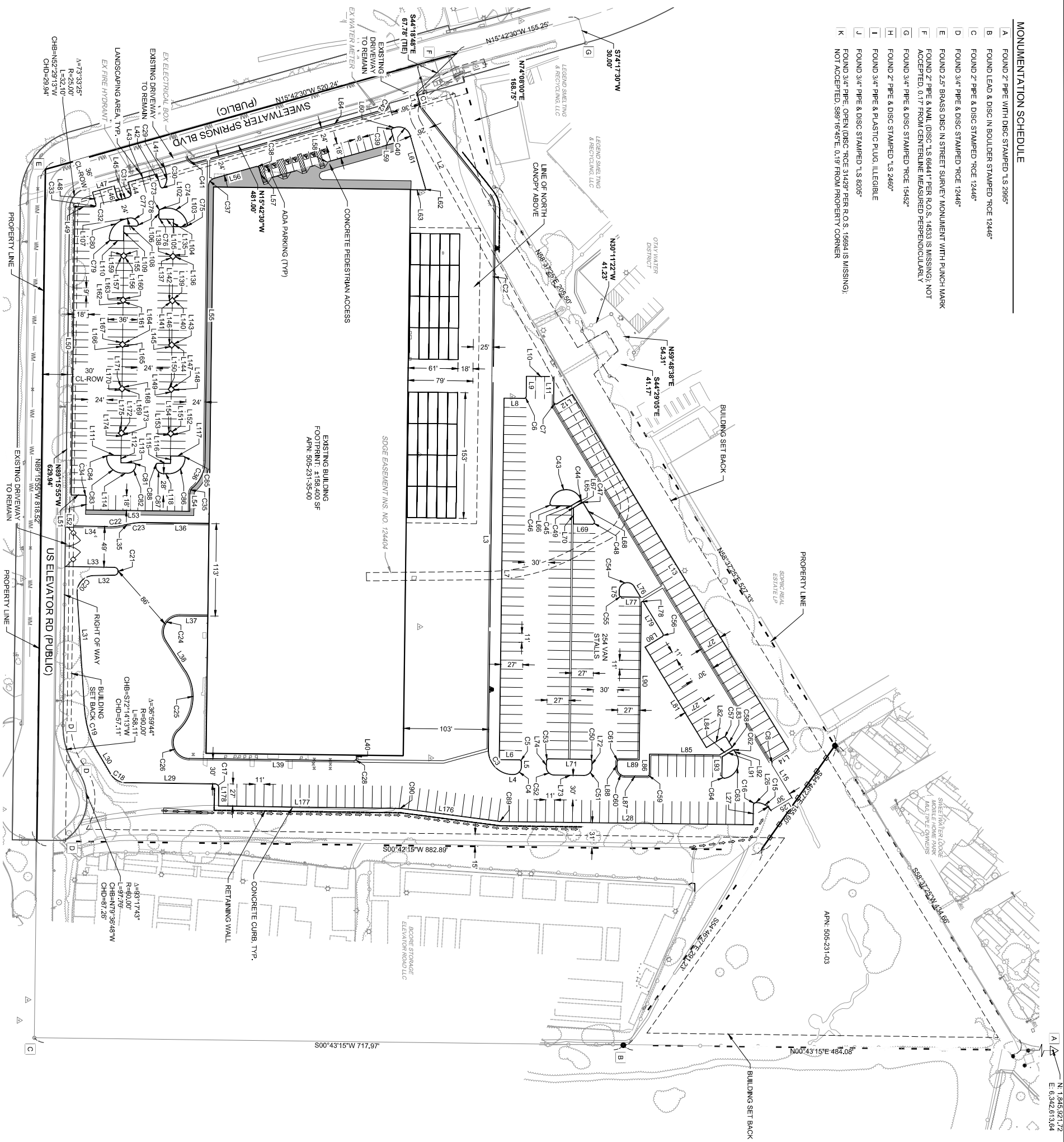
DATE: \_\_\_\_\_

ISSUING PERMIT NO. POS2021-LDRM-30332



**MONUMENTATION SCHEDULE**

- A FOUND 2" PIPE WITH DISC STAMPED 'LS 2395'
- B FOUND LEAD & DISC IN BOULDER STAMPED 'RCE 12446'
- C FOUND 2" PIPE & DISC STAMPED 'RCE 12446'
- D FOUND 3/4" PIPE & DISC STAMPED 'RCE 12446'
- E FOUND 2 1/2" BRASS DISC IN STREET SURVEY MONUMENT WITH PUNCH MARK
- F FOUND 2" PIPE & NAIL (DISC 'LS 6844' PER R.O.S. 1453 IS MISSING); NOT ACCEPTED 0.17' FROM CENTERLINE MEASURED PERPENDICULARLY
- G FOUND 3/4" PIPE & DISC STAMPED 'RCE 15452'
- H FOUND 2" PIPE & DISC STAMPED 'LS 2480'
- I FOUND 3/4" PIPE & PLASTIC PLUG, ILLEGIBLE
- J FOUND 3/4" PIPE & DISC STAMPED 'LS 8205'
- K FOUND 3/4" PIPE, OPEN DISC 'RCE 31429' PER R.O.S. 15694 IS MISSING); NOT ACCEPTED, 588'16"45"E, 0.19' FROM PROPERTY CORNER



N 1345.92172°  
E 6142.91354

COUNTY APPROVED CHANGES			
NO.	DESCRIPTION:	APPROVED BY:	DATE:

**RECORD PLAN**

BY: LUKE A. GOSSEBE DATE: \_\_\_\_\_

R.C.E. 725888

EXPIRES: 06-30-22

**BENCH MARK**

DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SMRE4, 2013"

LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.

RECORD FROM: SURVEY NO. 22057 AND GEOID MODEL 12B

ELEVATION: 518.044 USSE DATUM: NAD 1988

**PRIVATE CONTRACT**

SHEET 4 OF 19 SHEETS

COUNTY OF SAN DIEGO

DEPARTMENT OF PUBLIC WORKS

SITE PLAN FOR: DIB2 SWEETWATER

12500 SWEETWATER SPRINGS BLVD.

SPRING VALLEY, CA 91778

CALIFORNIA COORDINATE INDEX 202-1779

DATE: \_\_\_\_\_

DESIGNED BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

3391 somarito valley Blvd, suite 120 san diego, ca 92121  
p 658.638.7277 wwaremalcomb.com

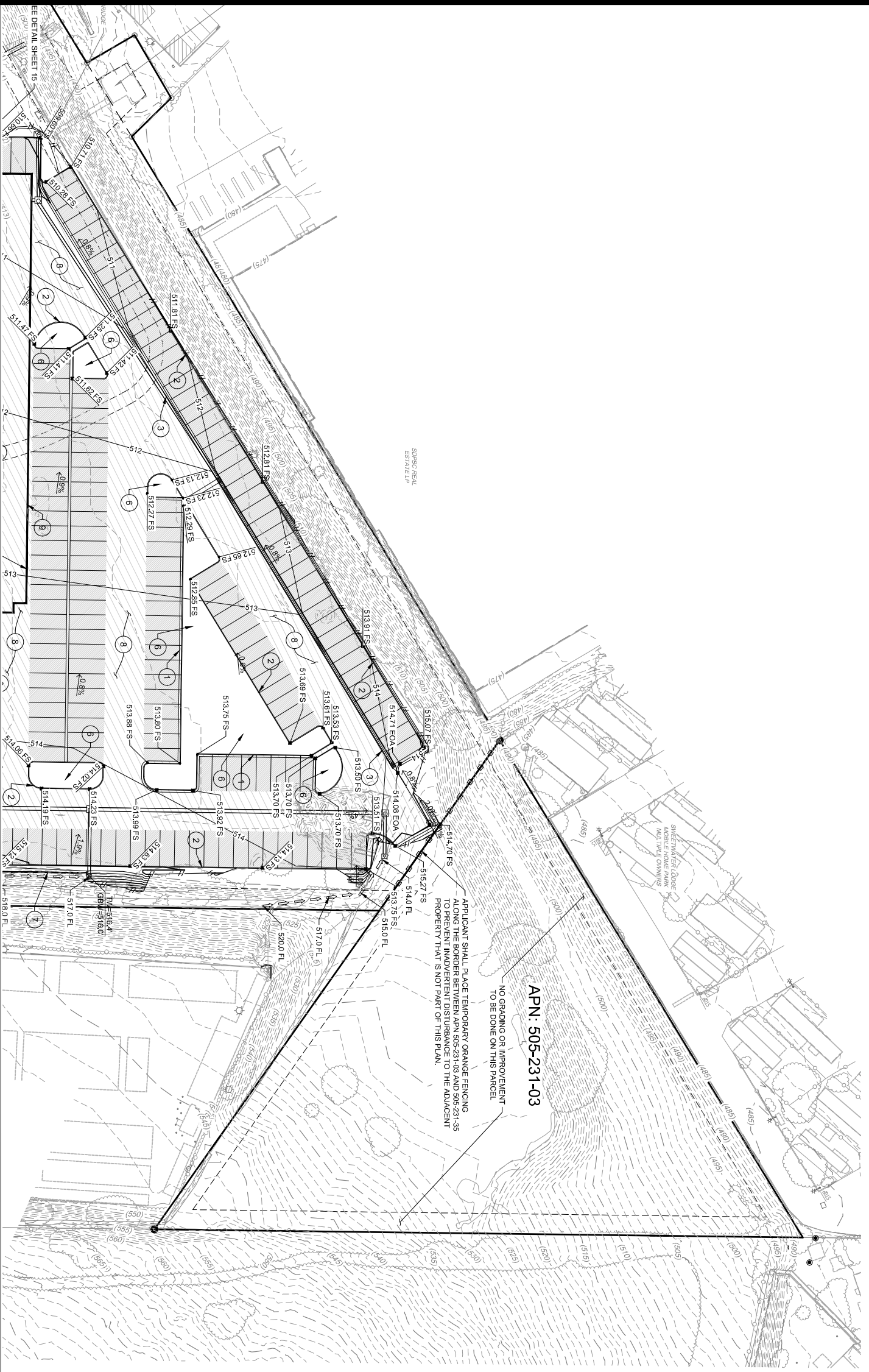
**WARE MALCOMB**  
CIVIL ENGINEERING

SCALE 1" = 60'

**DIGALPERT**  
811

**WM**





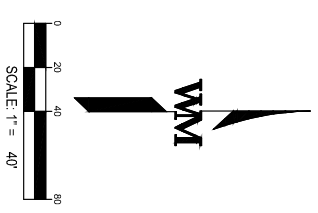
**CONSTRUCTION NOTES:**

- ① CONSTRUCT 6" CURB & 1.5" GUTTER PER DETAIL 2, SHEET 19.
- ② CONSTRUCT 6" CURB PER DETAIL 3, SHEET 19.
- ③ CONSTRUCT 3" WIDE RIBBON GUTTER PER DETAIL 4, SHEET 19.
- ④ CONSTRUCT PRIVATE PCC SIDEWALK PER DETAIL 5, SHEET 19.
- ⑤ CONNECT TO EXISTING DRIVEWAY.
- ⑥ NEW LANDSCAPE PER LANDSCAPE PLANS
- ⑦ CONSTRUCT RETAINING WALL. SEE STRUCTURAL PLANS FOR MORE INFORMATION.
- ⑧ CONSTRUCT NEW ASPHALT PER DETAIL 1, SHEET 19.
- ⑨ UNDERGROUND STORAGE CHAMBER PER DETAIL ON SHEET 15.

**PAVING LEGEND**

AREA	T.I.	PAVEMENT SECTION	SYMBOL
DRIVE AISLES	7	PAVEMENT SECTIONS AS APPROVED BY COUNTY MATERIALS LAB AND PER RECOMMENDATION OF GEOTECHNICAL ENGINEER.	[Symbol]
PARKING AREAS	5		[Symbol]
TRUCK LOADING AREAS	7		[Symbol]
VAN LOADING AREAS	5		[Symbol]

REFER TO THE REPORT "LIMITED GEOTECHNICAL EVALUATION PROPOSED PARKING LOT, APN 505-231-03-00 SPRING VALLEY" PREPARED BY GEOTER, INC. DATED AUGUST 13, 2020. PROJECT NO. 2485-CR.



COUNTY APPROVED CHANGES		
NO.	DESCRIPTION:	APPROVED BY:

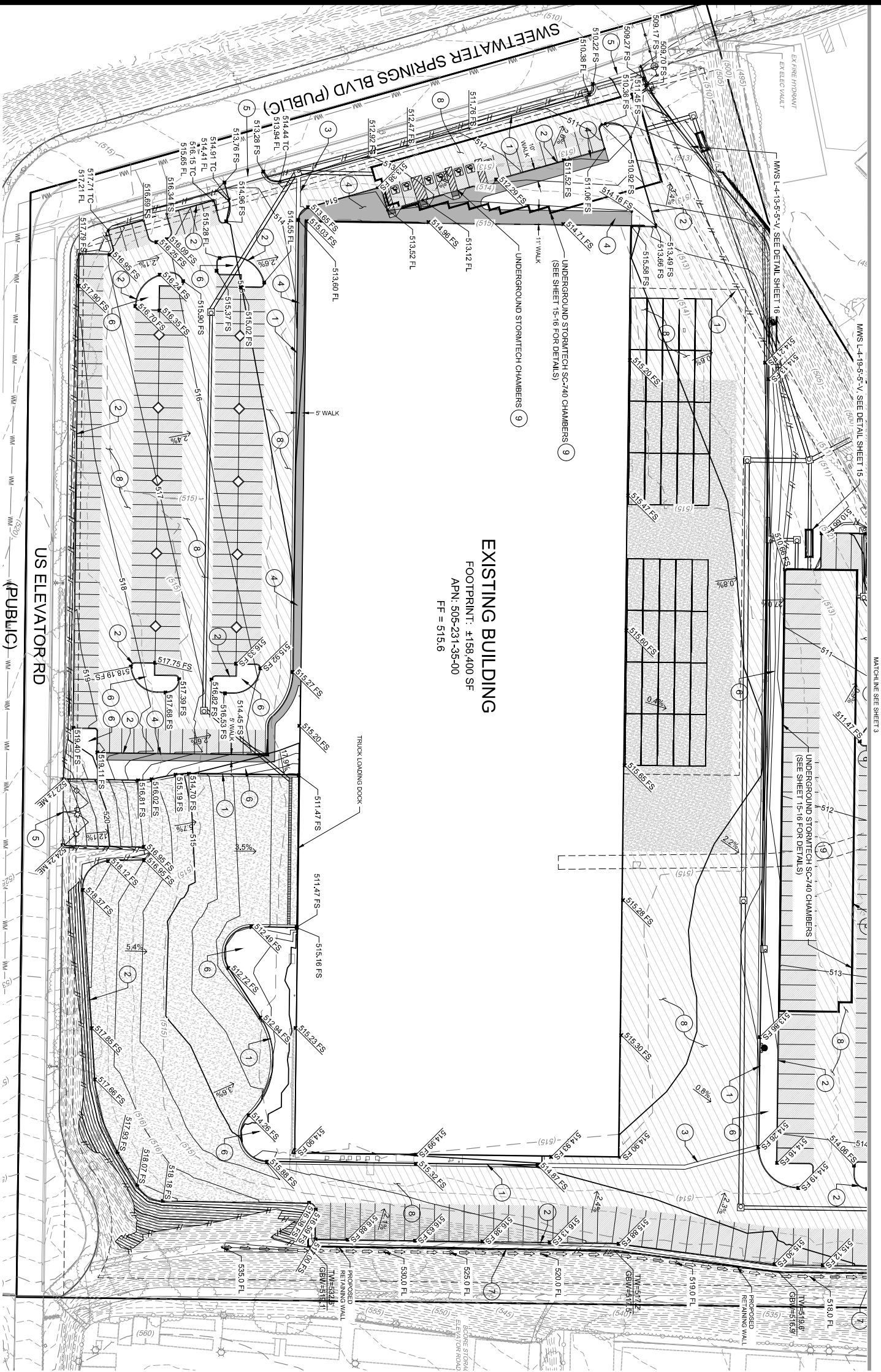
**RECORD PLAN**

BY: LUKE A. GOSSAHE DATE: \_\_\_\_\_  
 R.C.E. 72888  
 EXPIRES: 06-30-22  
**BENCH MARK**  
 DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SIMB4, 2013"  
 LOCATION: TOP OF CURB INLET ON E.T.V. SIDE OF JAMACHA BLVD.  
 RECORD FROM: SURVEY NO. 22097 AND GEOD. MODEL 128  
 ELEVATION: 518.044 USSE DATUM: NAD, 1988  
 DATUM: \_\_\_\_\_

**PRIVATE CONTRACT**

SHEET 6 COUNTY OF SAN DIEGO SHEETS 19  
 DEPARTMENT OF PUBLIC WORKS  
 GRADING PLAN FOR:  
**DIB2 SWEETWATER**  
 12500 SWEETWATER SPRINGS BLVD.  
 SPRING VALLEY, CA 91978  
 CALIFORNIA COORDINATE INDEX 202-1779  
 DRAWING OR WORKS  
 APPROVED FOR: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DRAWING PERMIT NO. PDS2021-LDGRM-30332

**DIGALPRT WARE MALCOMB**  
 CIVIL ENGINEERING  
 3391 sorrento valley Blvd, suite 120, san diego, ca 92121  
 p 858.638.7277 wwaremalcomb.com  
**811**



**EXISTING BUILDING**  
 FOOTPRINT: 4158,400 SF  
 APN: 505-231-35-00  
 FF = 515.6

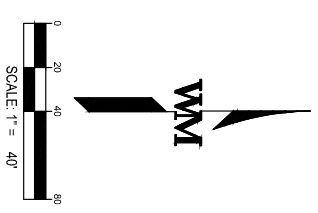
**CONSTRUCTION NOTES:**

1. CONSTRUCT 6" CURB & 1.5" GUTTER PER DETAIL 2, SHEET 19.
2. CONSTRUCT 6" CURB PER DETAIL 3, SHEET 19.
3. CONSTRUCT 3" WIDE RIBBON GUTTER PER DETAIL 4, SHEET 19.
4. CONSTRUCT PRIVATE POC SIDEWALK PER DETAIL 5, SHEET 19.
5. CONNECT TO EXISTING DRIVEWAY.
6. NEW LANDSCAPE PER LANDSCAPE PLANS
7. CONSTRUCT RETAINING WALL. SEE STRUCTURAL PLANS FOR MORE INFORMATION.
8. CONSTRUCT NEW ASPHALT PER DETAIL 1, SHEET 19.
9. UNDERGROUND STORAGE CHAMBER PER DETAIL ON SHEET 15.

**PAVING LEGEND**

AREA	T.I.	PAVEMENT SECTION	SYMBOL
DRIVE AISLES	7	PAVEMENT SECTIONS AS APPROVED BY COUNTY MATERIALS LAB AND PER RECOMMENDATION OF GEOTECHNICAL ENGINEER	[Symbol]
PARKING AREAS	5		[Symbol]
TRUCK LOADING AREAS	7		[Symbol]
VAN LOADING AREAS	5		[Symbol]

REFER TO THE REPORT "LIMITED GEOTECHNICAL EVALUATION PROPOSED PARKING LOT, APN 505-231-03-00 SPRING VALLEY" PREPARED BY GEOTEK, INC. DATED AUGUST 13, 2020, PROJECT NO. 24849C.



**COUNTY APPROVED CHANGES**

NO.	DESCRIPTION:	APPROVED BY:	DATE:

**RECORD PLAN**

BY: LUKE A. GOSSEBE DATE: \_\_\_\_\_  
 R.C.E. 725888  
 EXPIRES: 06-30-22

**BENCH MARK**

DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SIBR4, 2013"  
 LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.  
 RECORD FROM: SURVEY NO. 22097 AND GEOD. MODEL 128  
 ELEVATION: 518.044 USSE  
 DATUM: NAD 1988

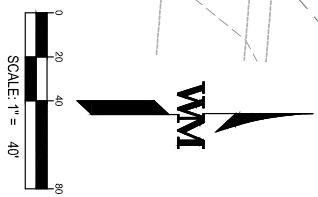
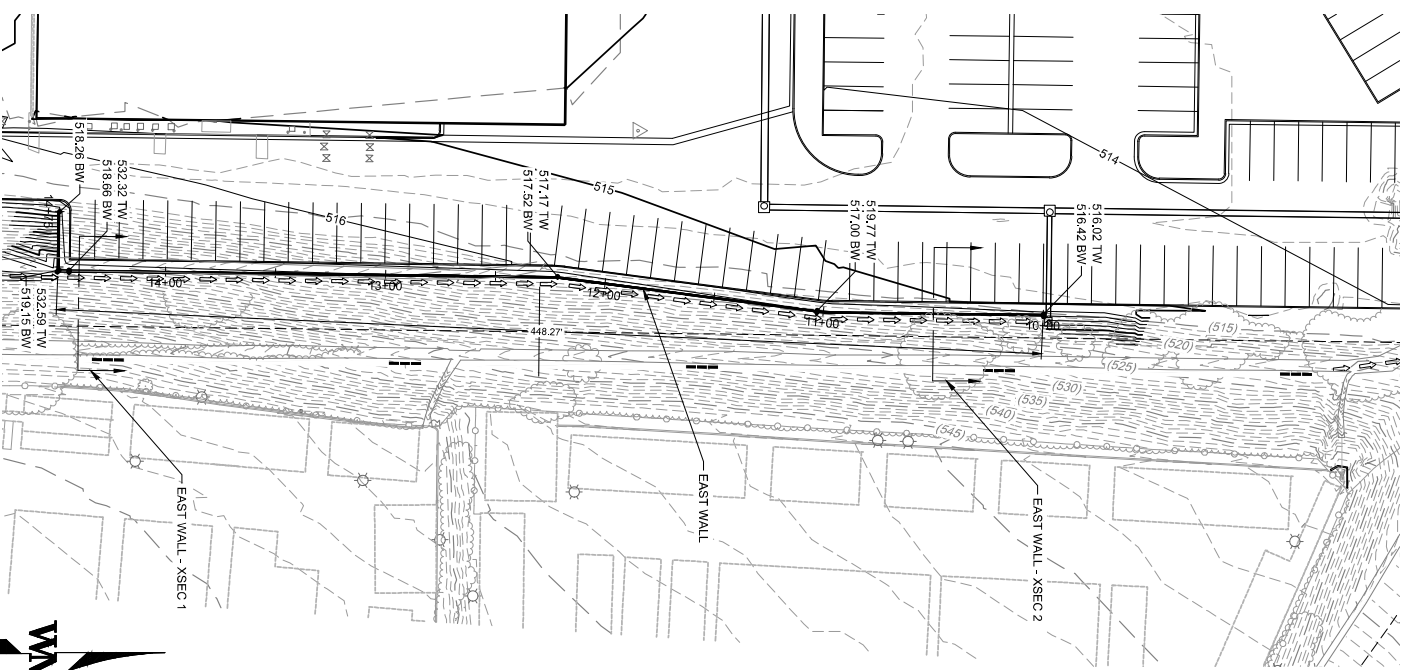
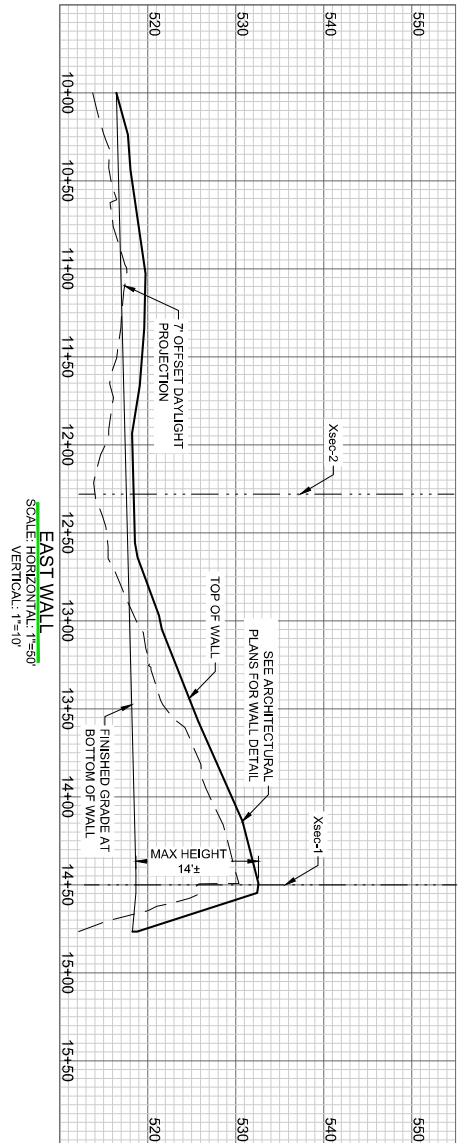
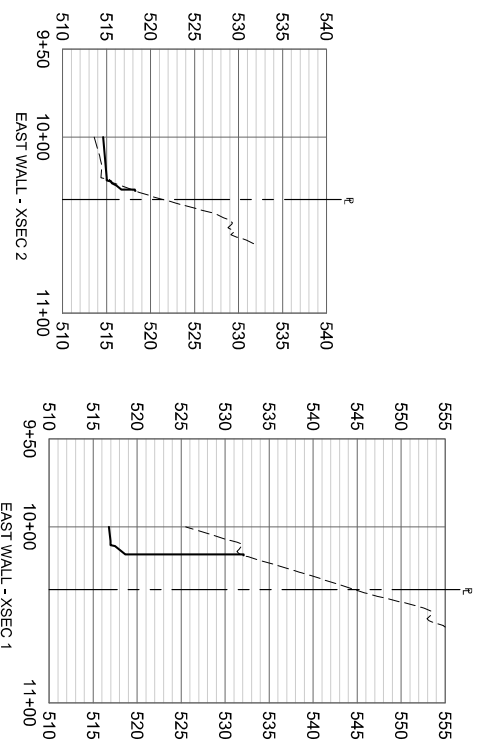
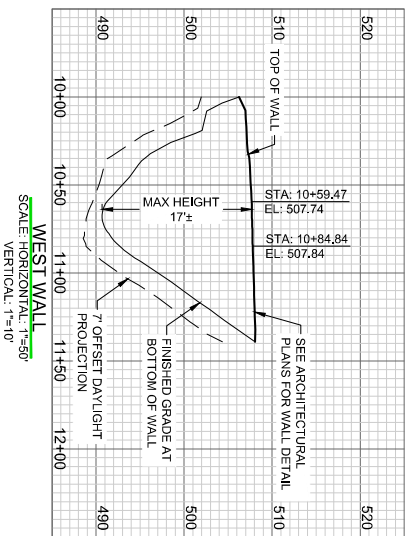
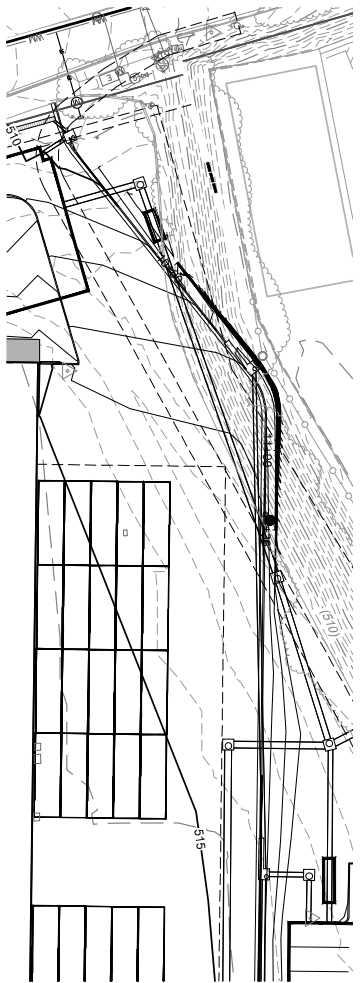
**PRIVATE CONTRACT**

SHEET 7 OF 19  
 COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS SHEETS

GRADING PLAN FOR:  
 DIB2 SWEETWATER  
 12500 SWEETWATER SPRINGS BLVD.  
 SPRING VALLEY, CA 91978  
 CALIFORNIA COORDINATE INDEX 202-1779

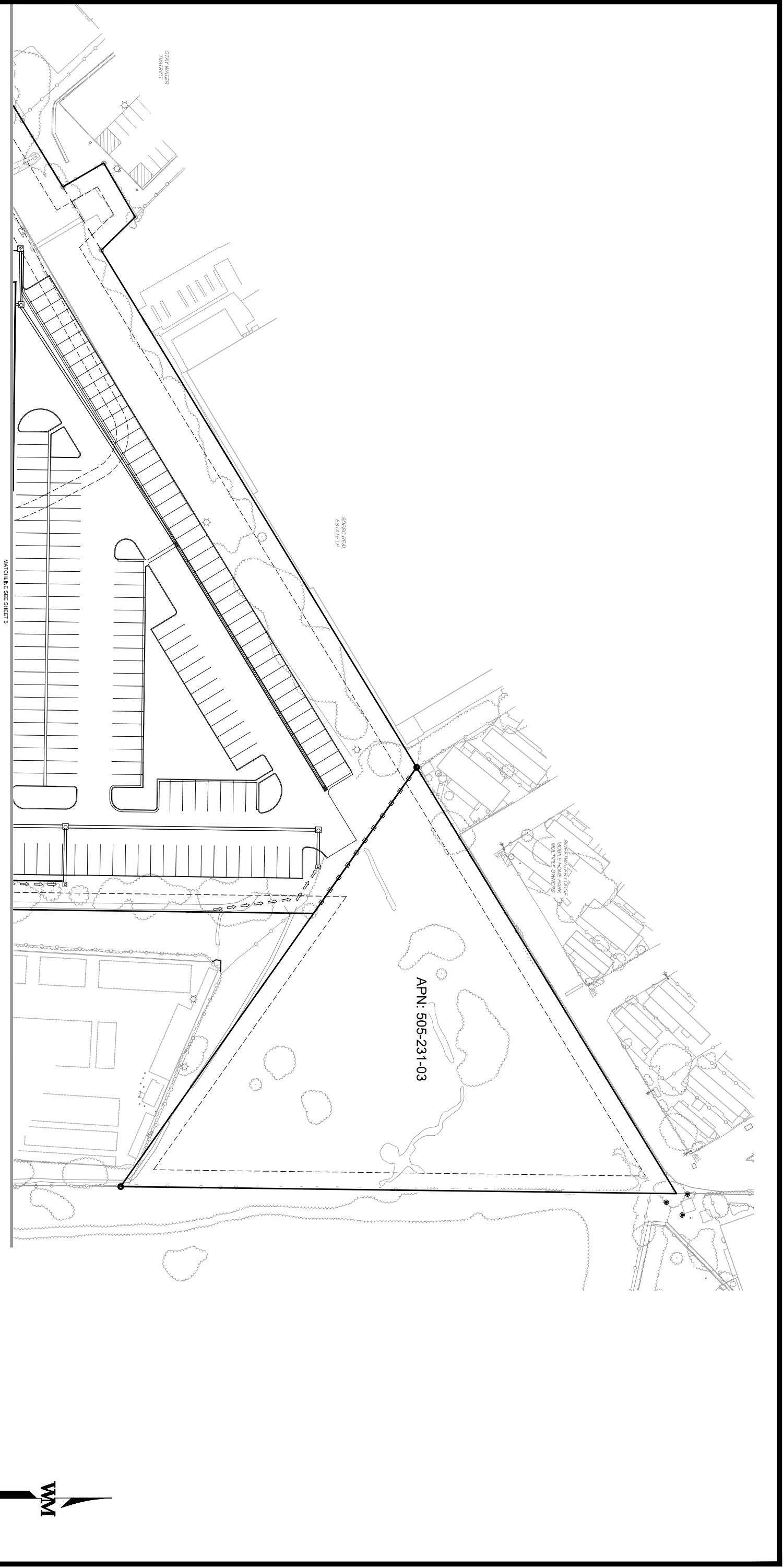
DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DRAWING NO. PDS2021-LDRM-30332

**DIGGERT WARE MALCOMB**  
 CIVIL ENGINEERING  
 3391 sorrento valley blvd, suite 120 san diego, ca 92121  
 p 858.638.7277 wwaremalcomb.com  
**811**



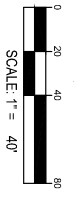
<b>COUNTY APPROVED CHANGES</b> NO. DESCRIPTION APPROVED BY DATE			
<b>RECORD PLAN</b> BY: LUKE A. CORSBIE DATE: _____ R.C.E. JZS88 EXPIRES: 06-30-22		<b>PRIVATE CONTRACT</b> SHEET 8 COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS SHEETS 19 WALL PROFILES AND CROSS SECTIONS PLAN FOR:	
<b>BENCH MARK</b> DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SWR#4, 2013" LOCATION: TOP OF CURB INLET ON E/WY SIDE OF JAMACHA BLVD. RECORD FROM SURVEY NO. 22057 AND GEOD. MODEL 128 ELEVATION: 518.044 USFS DATUM: NAD 1988		PROJECT NO. 202-1779 COUNTY ENGINEER: _____ PROJECT ENGINEER: _____ DATE: _____ SCALE: _____ SHEET NO. P052021-LDGRM1-30332	

**DIGALBERT WARE MALCOMB**  
 CIVIL ENGINEERING  
 3391 sorrento valley Blvd, suite 120 san diego, ca 92121  
 p 858.638.7277 waremalmc.com



MATCHLINE SEE SHEET 6

APN: 505-231-03



NO.	DESCRIPTION:	APPROVED BY:	DATE:

**RECORD PLAN**

BY: LUKE A. GOSSBIE DATE: \_\_\_\_\_  
 R.C.E. 725888  
 EXPIRES: 06-30-22

**PRIVATE CONTRACT**

SHEET 9 COUNTY OF SAN DIEGO SHEETS 19  
 DEPARTMENT OF PUBLIC WORKS

UTILITY PLAN FOR:  
**DIB2 SWEETWATER**  
 12500 SWEETWATER SPRINGS BLVD.  
 SPRING VALLEY, CA 91978

CALIFORNIA COORDINATE INDEX 202-1779

ENGINEER'S NAME: WARE MALCOMB  
 PHONE NO. (858)638-7277 // EMAIL: waremalcomb.com

NO.	DESCRIPTION:	APPROVED BY:	DATE:

**BENCH MARK**

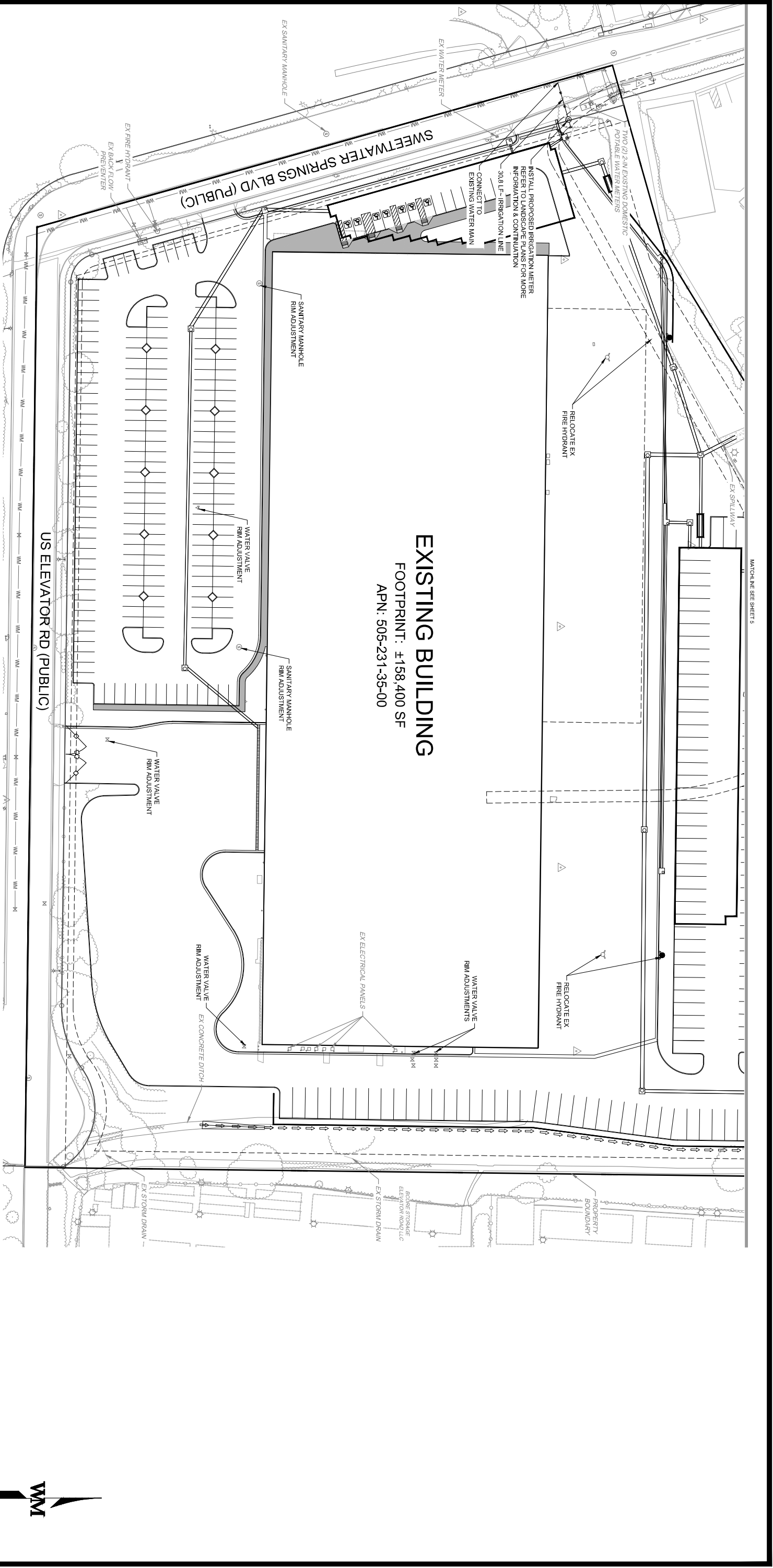
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 LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.  
 RECORD FROM: SURVEY NO. 22097 AND GEOD. MODEL 128  
 ELEVATION: 518.044 USSE DATUM: NAD 1988  
 DATUM: \_\_\_\_\_

ENGINEER'S NAME: WARE MALCOMB  
 PHONE NO. (858)638-7277 // EMAIL: waremalcomb.com

**DIGALBERT WARE MALCOMB**  
 CIVIL ENGINEERING

3391 sorrento valley Blvd, suite 120 san diego, ca 92121  
 p 858.638.7277 waremalcomb.com

**811**

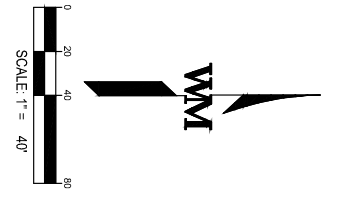


**EXISTING BUILDING**

FOOTPRINT: ±158,400 SF  
 APN: 505-231-35-00

US ELEVATOR RD (PUBLIC)

SWEETWATER SPRINGS BLVD (PUBLIC)



NO.	DESCRIPTION:	APPROVED BY:	DATE:
	COUNTY APPROVED CHANGES		

RECORD PLAN  
 BY: LUKE A. GOSSIBE DATE:  
 R.C.E. 725888  
 EXPIRES: 06-30-22

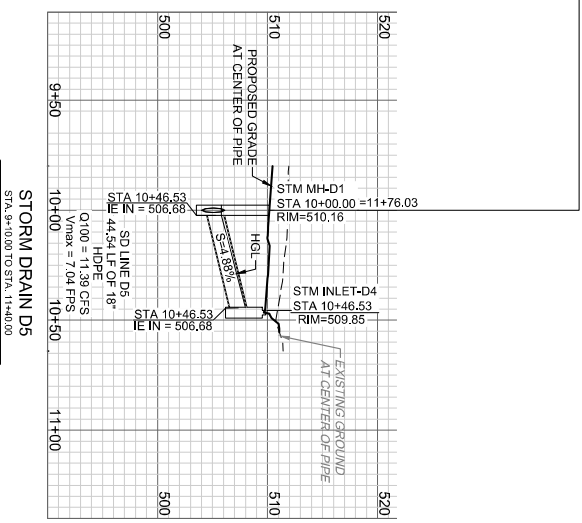
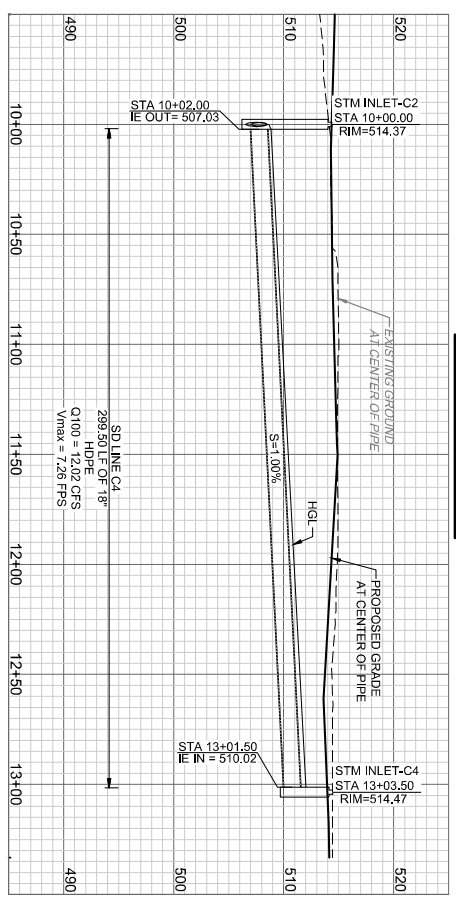
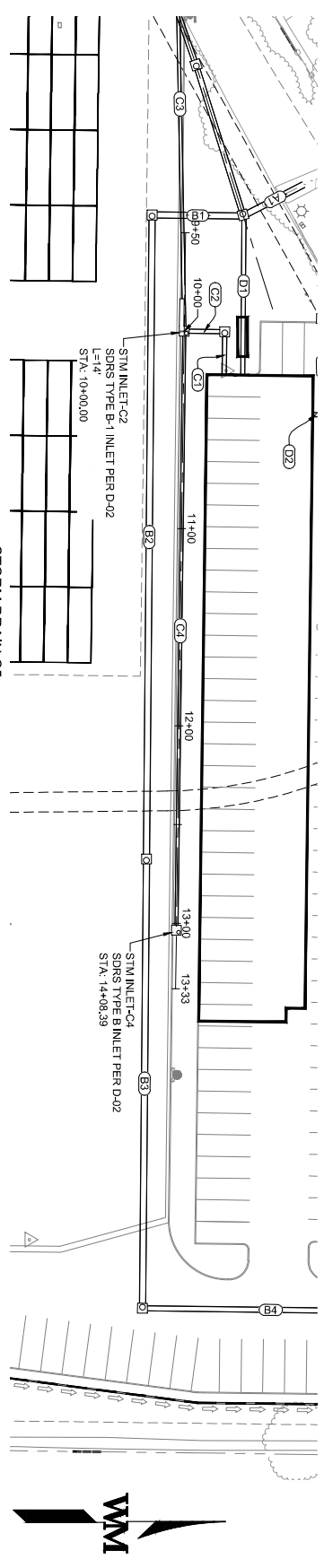
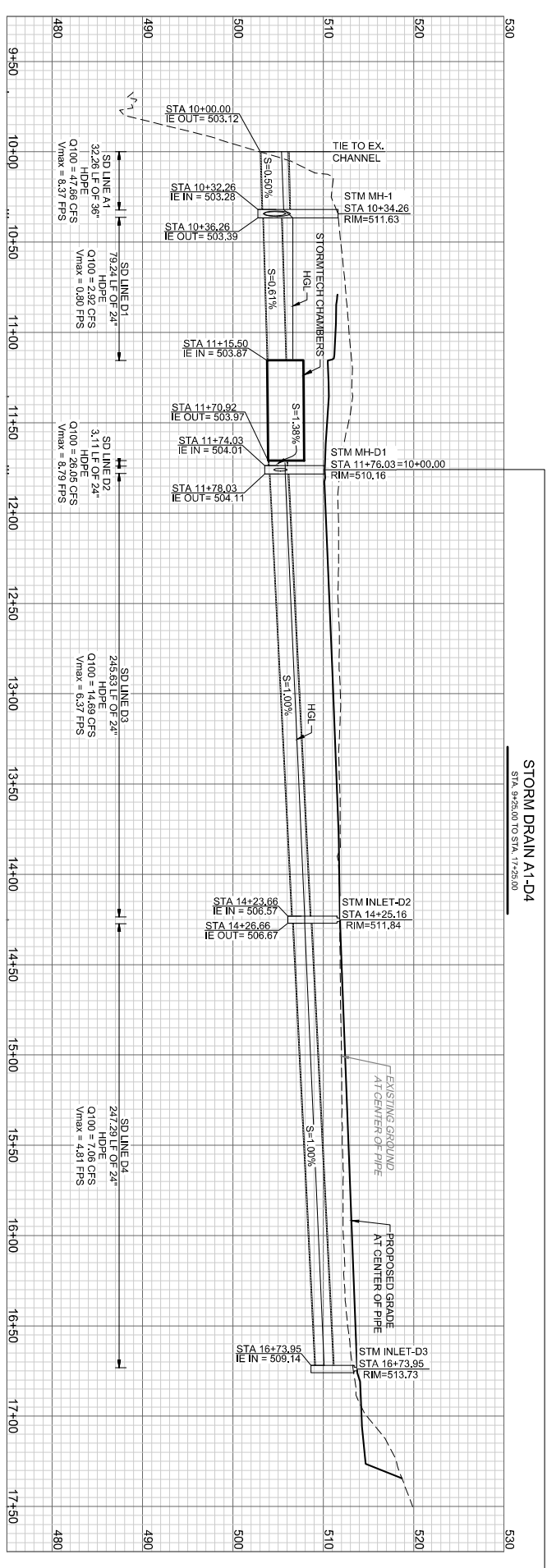
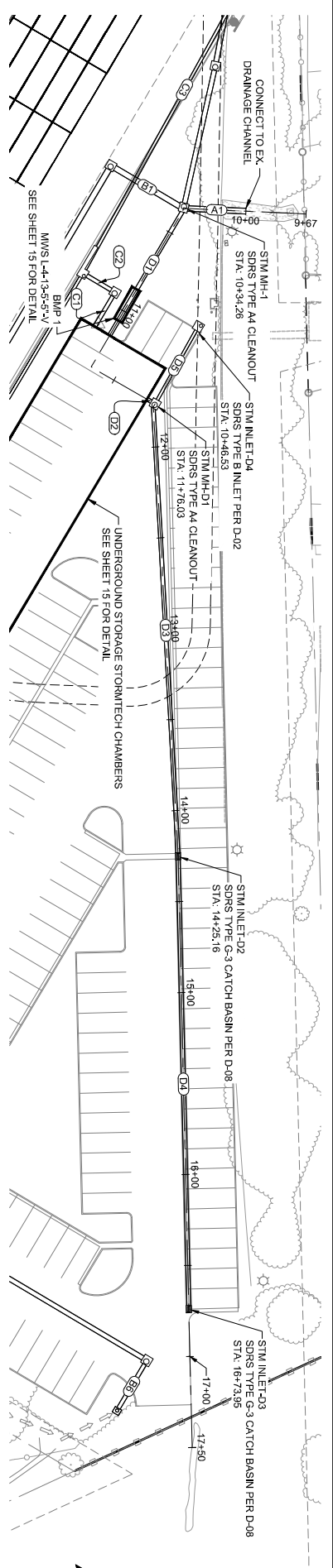
BENCH MARK  
 DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SIBRE4, 2013"  
 LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.  
 RECORD FROM: SURVEY NO. 22097 AND GEOD. MODEL 128  
 ELEVATION: 518.044 USSE DATUM: NAD 1988

PRIVATE CONTRACT  
 SHEET 10 COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS SHEETS 19  
 UTILITY PLAN FOR:  
 DIB2 SWEETWATER  
 12500 SWEETWATER SPRINGS BLVD.  
 SPRING VALLEY, CA 91978  
 CALIFORNIA COORDINATE INDEX 202-1779

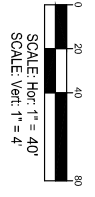
DESIGNED BY: WARE MALCOMB  
 DRAWN BY: WARE MALCOMB  
 CHECKED BY: WARE MALCOMB  
 DATE: \_\_\_\_\_

**DIGALFRT WARE MALCOMB**  
 CIVIL ENGINEERING  
 3391 sorrento valley blvd, suite 120 san diego, ca 92121  
 p 858.638.7277 wwaremalcomb.com  
**811**





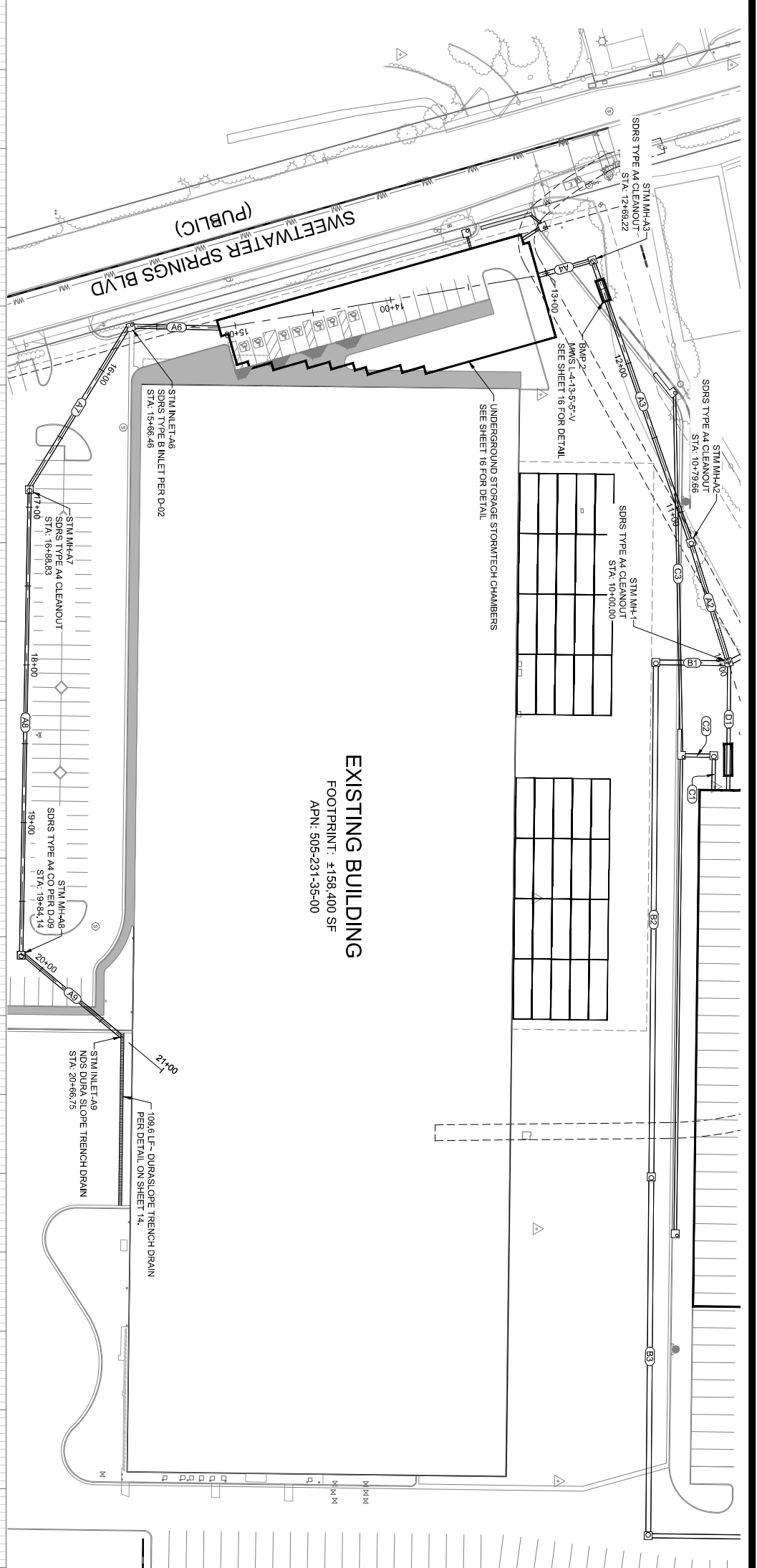
NOTE:  
SEE SHEET 14 FOR STORM DRAIN DATA TABLE



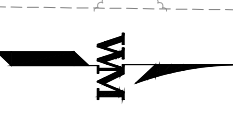
RECORD PLAN

PRIVATE CONTRACT

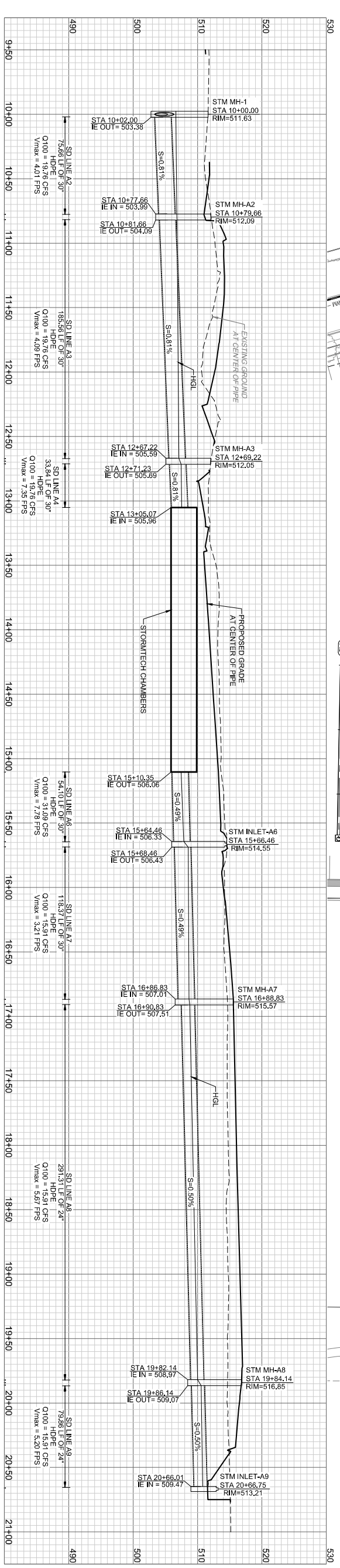
BY: LUKE A. GOSSAGE	DATE:
R.C.E. 725888	
EXPIRES: 06-30-22	
BENCH MARK	
DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SWR#4, 2013"	
LOCATION: TOP OF CURB INLET ON ELY. SIDE OF JAMACHA BLVD.	
RECORD FROM: SURVEY NO. 22057 AND GEOD. MODEL 128	
ELEVATION: 518.044 USSE	DATUM: NAD 1988
DRAWING OR WORKS	
DATE:	
DESIGNED BY: PDS2021-LDGRM-30332	



**EXISTING BUILDING**  
 FOOTPRINT: ±158,400 SF  
 APN: 505-231-35-00



NOTE:  
 SEE SHEET 14 FOR STORM DRAIN DATA TABLE



**STORM DRAIN A2-A9**  
 STA: 9+50 TO STA: 21+00



**RECORD PLAN**

BY: LUKE A. COSSAIE DATE: \_\_\_\_\_  
 R.C.E. 725888  
 EXPIRES: 06-30-22

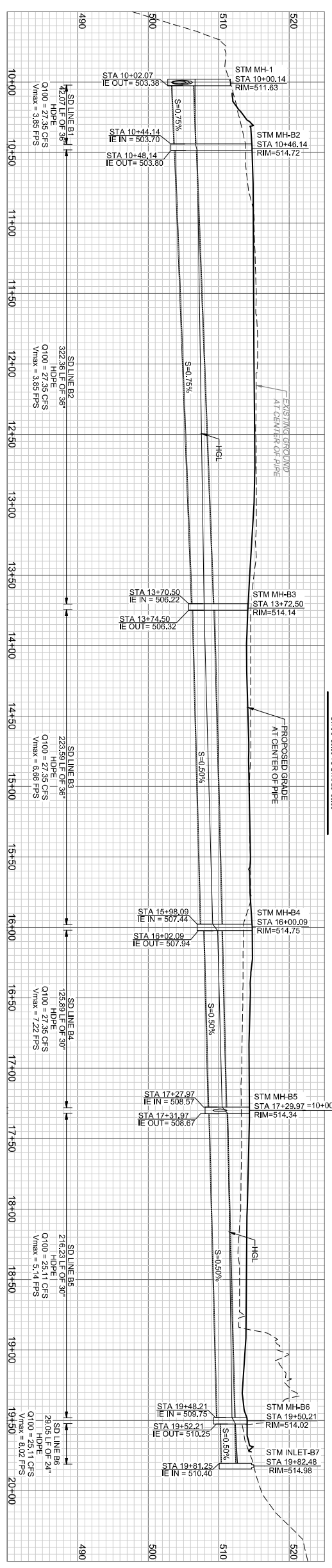
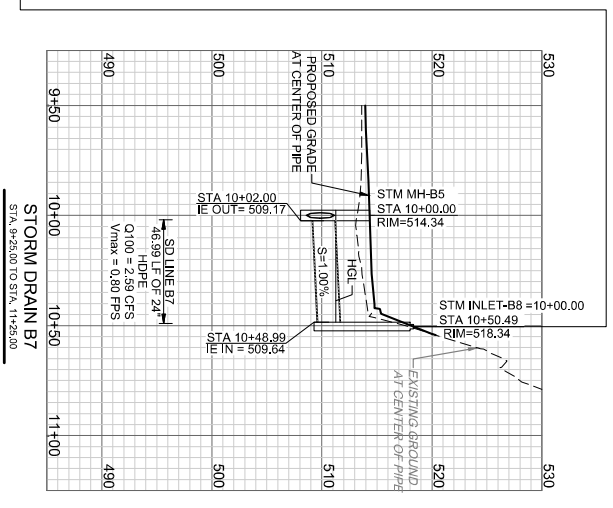
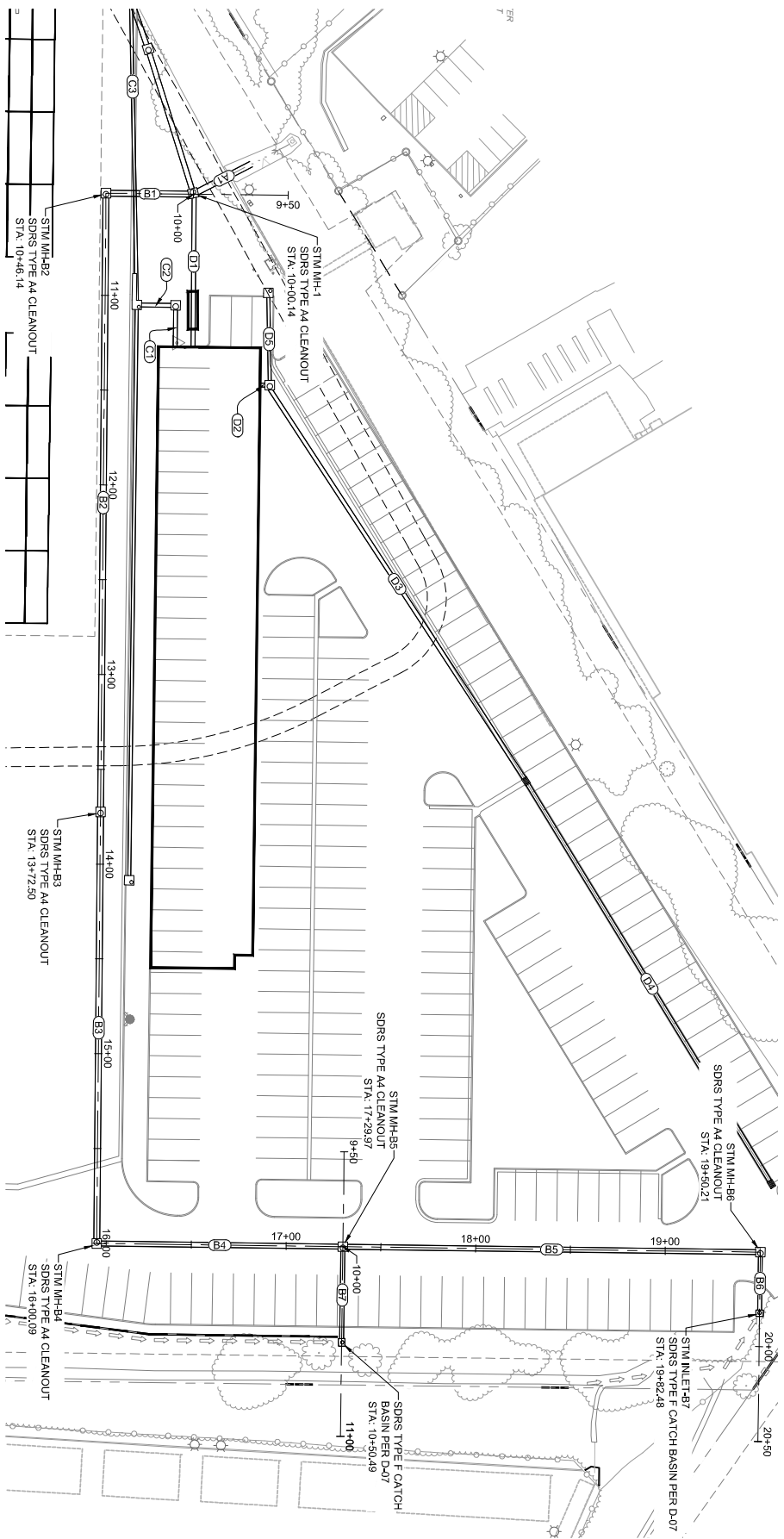
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 LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.  
 RECORD FROM: SURVEY NO. 22057 AND GEOD. MODEL 128  
 ELEVATION: 518.044 USSE DATUM: NAD 1988

**PRIVATE CONTRACT**

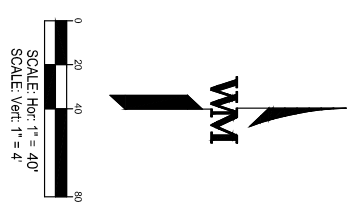
SHEET 12 OF 19 SHEETS  
 COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS

STORM PROFILES FOR:  
 DIR2 SWEETWATER  
 12500 SWEETWATER SPRINGS BLVD.  
 SPRING VALLEY, CA 91978  
 CALIFORNIA COORDINATE INDEX 202-1779

ENGINEER'S NAME: WARE MALCOMB  
 PHONE NO. (858)638-7277 // EMAIL: waremalcomb.com  
 DRAWING NO. PDS2021-LDRM-30332  
 DATE: \_\_\_\_\_



NOTE:  
SEE SHEET 14 FOR STORM DRAIN DATA TABLE



RECORD PLAN

BY: LUKE A. COSSABE DATE: \_\_\_\_\_  
R.C.E. 725888

EXPIRES: 06-30-22  
BENCH MARK

DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SWR#4, 2013"

LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.

RECORD FROM: SURVEY NO. 22057 AND GEOD. MODEL 128

ELEVATION: 518.044 USSE DATUM: NAD 1988

PRIVATE CONTRACT

SHEET 13 COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS SHEETS 19

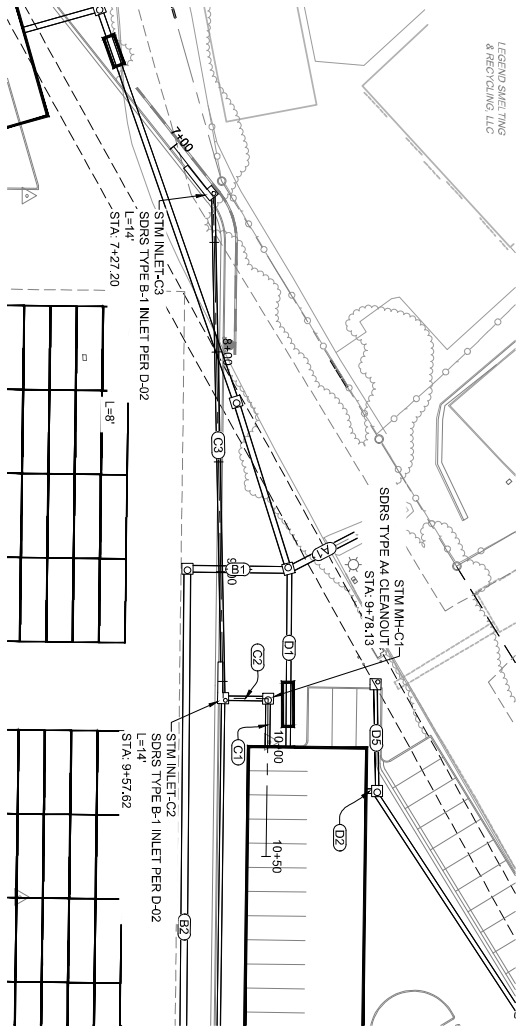
STORM PROFILES FOR: DIB2 SWEETWATER 12500 SWEETWATER SPRINGS BLVD. SPRING VALLEY, CA 91978

CALIFORNIA COORDINATE INDEX 202-1779

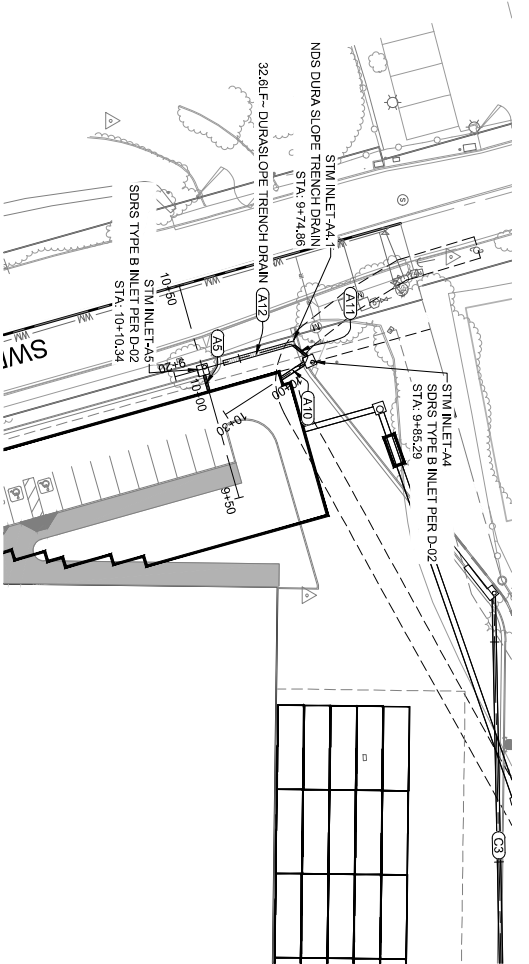
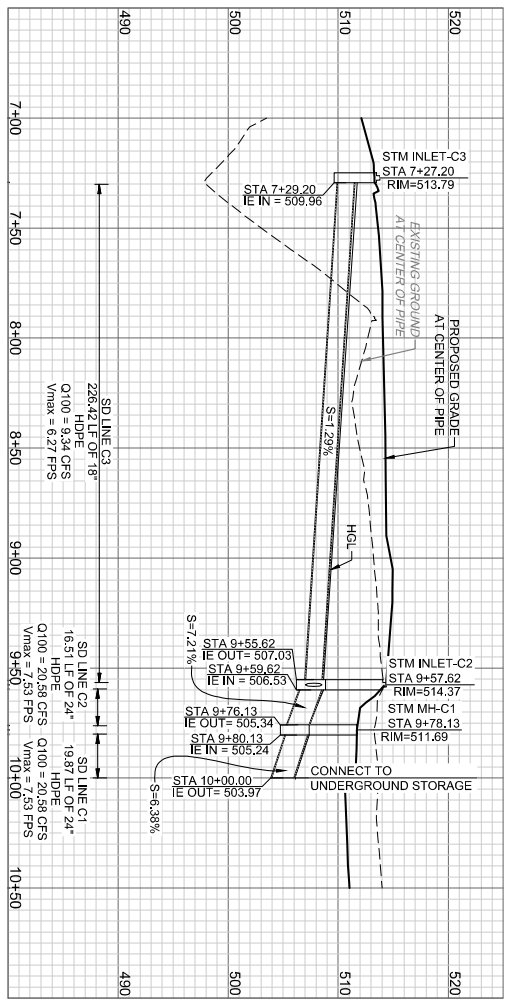
ENGINEER'S NAME: WARE MALCOMB

DATE: \_\_\_\_\_

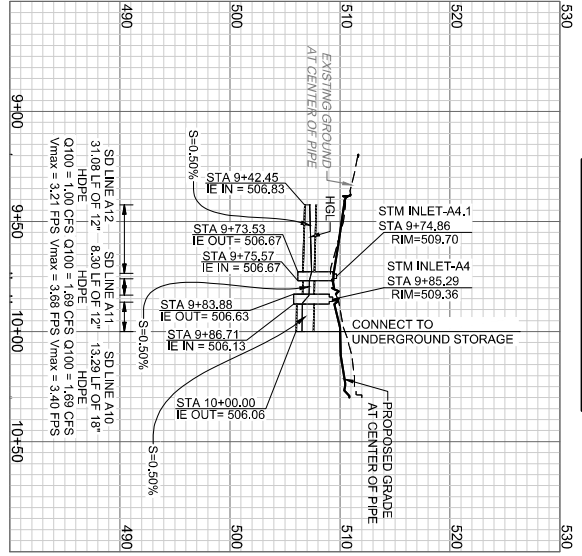
PROJECT NO. PDS2021-LDGRM-30332



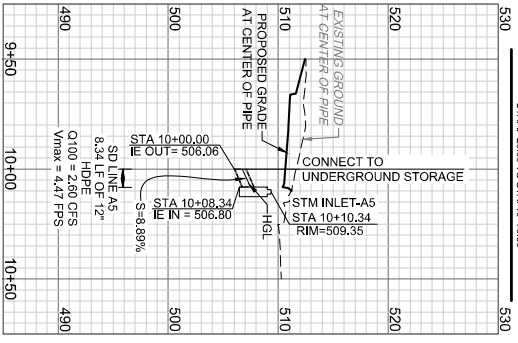
STORM DRAIN - C1,C2,C4  
STA 6+58.88 TO STA 10+50.00



STORM DRAIN - A10-A12  
STA 8+40.00 TO STA 11+00.00

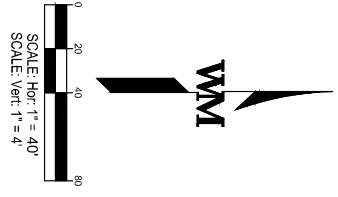


STORM DRAIN - A5  
STA 9+25.00 TO STA 10+75.00



STORM DRAIN DATA				
NO.	DELTA BEARING	SLOPE	LENGTH	PIPE SIZE
A1	N27° 21' 55" W	0.50%	32.26	36" HDPE
A2	N72° 37' 09" E	0.81%	75.66	24" HDPE
A3	N70° 47' 46" E	0.81%	185.56	24" HDPE
A4	N15° 42' 30" W	0.81%	33.84	30" HDPE
A5	N74° 13' 37" E	8.88%	8.34	12" HDPE
A6	N01° 19' 11" E	0.49%	54.10	24" HDPE
A7	N68° 12' 53" W	0.49%	118.37	24" HDPE
A8	N88° 57' 36" W	0.50%	291.31	24" HDPE
A9	S39° 56' 51" W	0.50%	79.86	24" HDPE
A10	S32° 56' 42" E	0.50%	13.29	18" HDPE
A11	N39° 25' 40" E	0.50%	8.30	12" HDPE
A12	N15° 42' 30" W	0.50%	31.08	12" HDPE
B1	N00° 39' 46" E	0.75%	42.07	36" HDPE
B2	N89° 29' 38" W	0.75%	322.36	36" HDPE
B3	N89° 30' 35" W	0.50%	223.59	36" HDPE
B4	S00° 45' 03" W	0.50%	125.89	36" HDPE
B5	S00° 45' 03" W	0.50%	216.23	30" HDPE
B6	N89° 19' 03" W	0.50%	29.05	30" HDPE
B7	N89° 13' 03" W	1.00%	46.99	30" HDPE
C1	S89° 14' 59" E	6.38%	19.87	30" HDPE
C2	N00° 42' 13" E	7.21%	16.51	30" HDPE
C3	N88° 52' 06" E	1.25%	226.42	30" HDPE
C4	N89° 14' 59" W	1.00%	299.50	24" HDPE
D1	N89° 33' 56" W	0.61%	79.24	24" HDPE
D2	S00° 06' 24" W	1.35%	3.11	24" HDPE
D3	S56° 50' 30" W	1.00%	245.63	24" HDPE
D4	S58° 38' 01" W	1.00%	247.29	24" HDPE
D5	N89° 02' 29" E	4.88%	44.54	18" HDPE

NOTE:  
 PROPOSED TRENCH DRAIN, STM INLET-A4.1 WILL ACT AS AN EMERGENCY OUTLET STRUCTURE IN CASE OF FAILURE IN DETENTION BASIN. FLOW WILL BYPASS OUTLET PIPE AND BUBBLE OUT OF THE PROPOSED TRENCH DRAIN



RECORD PLAN

PRIVATE CONTRACT

BY: LUKE A. COSSAIE DATE: \_\_\_\_\_  
 R.C.E. 725888  
 EXPIRES: 06-30-22  
 BENCH MARK  
 DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SIBR4, 2013"  
 LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.  
 RECORD FROM: SURVEY NO. 22057 AND GEOD. MODEL 128  
 ELEVATION: 518.044 USSE DATUM: NAD 1988  
 DATUM: \_\_\_\_\_

SHEET 14 COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS SHEETS 19  
 STORM PROFILES FOR: DIB2 SWEETWATER 12500 SWEETWATER SPRINGS BLVD. SPRING VALLEY, CA 91978  
 CALIFORNIA COORDINATE INDEX 202-1779  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 (SIGNED) PERMIT NO. PDS2021-LDRMU-30332





**EROSION CONTROL 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 WATERS CAN BE REMOVED FROM THE PAD WITHOUT CAUSING EROSION. ON CONSTRUCT DAMAGE FACILITIES 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 THE 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 SLOPES SHALL BE PROTECTED WITH EROSION CONTROL MEASURES. EROSION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY UPON THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.
5. CATCH BASINS, DESILTING BASINS AND STORM DRAIN SYSTEMS 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 ABOVE UNITS, RETAINED BY SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERFERED BY THE GRAVEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS NECESSARY TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE.
7. THE DEVELOPER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RETAINED BY SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERFERED BY THE GRAVEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS NECESSARY TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE.

**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 CAPACITY. THE SEDIMENT RUNOFF SHALL BE MAINTAINED AND CLEANED TO DESIGN CAPACITY. THE SEDIMENT RUNOFF SHALL BE MAINTAINED AND CLEANED TO DESIGN CAPACITY. THE SEDIMENT RUNOFF SHALL BE MAINTAINED AND CLEANED TO DESIGN CAPACITY.
2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR WRITTEN APPROVAL FROM THE COUNTY DEPARTMENT OF PUBLIC WORKS.
3. SEDIMENT OR STORM DRAIN TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH GRAVEL BAGS FROM TOP OF PIPE TO TOP OF THE DIKE. THE GRAVEL BAGS SHALL BE PLACED WITH TOP ELEVATION LEVEL WITHIN TWO GRAVEL BAGS BELOW THE GRAVEL SURFACE OF THE STREET. GRAVEL BAGS ARE TO BE PLACED WITH ADJACENT CORNERS OF THE INTERVALS SPACED BETWEEN GRAVEL BAGS TO BE PLACED ON THE GRADE OF THE STREET. INTERVALS SHALL BE THE FOLLOWING:
  - LESS THAN 25' 90 FEET
  - 25 TO 50' 100 FEET
  - 50 TO 75' 150 FEET
  - 75 TO 100' 200 FEET
  - OVER 100' 250 FEET
4. AFTER THE TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCH AREA, CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A GROWN STREET.
5. DRAINAGE TRENCHES SHALL BE MAINTAINED AND CLEANED TO DESIGN CAPACITY. THE SEDIMENT RUNOFF SHALL BE MAINTAINED AND CLEANED TO DESIGN CAPACITY.
6. DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS RAINING INTO THE STREET.
7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW. INTERVALS BETWEEN CHECK DAMS SHALL BE THE FOLLOWING:
  - LESS THAN 25' 90 FEET
  - 25 TO 50' 100 FEET
  - 50 TO 75' 150 FEET
  - 75 TO 100' 200 FEET
  - OVER 100' 250 FEET
8. PROVIDE VELOCITY CHECK DAMS IN ALL STREET AREAS ACCORDING TO INTERVALS INDICATED BELOW. VELOCITY CHECK DAMS MAY BE CONSTRUCTED OF GRAVEL BAGS, TIMBER OR EXTEND COMPLETELY ACROSS THE STREET OR CHANNEL. AT RIGHT ANGLES TO THE CENTERLINE VELOCITY CHECK DAMS MAY ALSO BE PLACED AS SEBMENT TRAPS.
9. GRAVEL BAGS SHALL BE PLACED AT THE INTERVALS INDICATED BELOW. GRAVEL BAGS SHALL BE PLACED AT THE INTERVALS INDICATED BELOW. GRAVEL BAGS SHALL BE PLACED AT THE INTERVALS INDICATED BELOW.
10. GRAVEL BAGS SHALL BE PLACED AT THE INTERVALS INDICATED BELOW. GRAVEL BAGS SHALL BE PLACED AT THE INTERVALS INDICATED BELOW. GRAVEL BAGS SHALL BE PLACED AT THE INTERVALS INDICATED BELOW.
11. WHEN REQUIRED, EROSION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY UPON THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.
12. AFTER EVERY RAINFALL PRODUCING STORM, IF POSSIBLE, MAINTENANCE CREWS SHOULD BE REQUIRED TO HAVE ACCESS TO ALL AREAS BEHIND THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES. CHANNELS COMING FROM THE DEVELOPMENT. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENuded SLOPES ON INTERVIOUS SURFACES.
13. ANY PROPOSED ALTERNATIVE CONTROL MEASURES MUST BE APPROVED IN ADVANCE BY ALL RESPONSIBLE AGENCIES (I.E. COUNTY ENGINEER, DEPARTMENT OF ENVIRONMENTAL HEALTH, FLOOD CONTROL AND 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 ON TILE PLACED WITH PROHIBITIVE LANGUAGE (SUCH AS NO DUMPING, 1 LITER OR MORE OF OIL OR GREASE, NO DISCHARGE OF HAZARDOUS WASTE, NO DISCHARGE OF TOXIC WASTE, NO DISCHARGE OF SOLID WASTE, NO DISCHARGE OF FLAMMABLE LIQUIDS, NO DISCHARGE OF CORROSIVE LIQUIDS, NO DISCHARGE OF SOLID WASTE, NO DISCHARGE OF TOXIC WASTE, NO DISCHARGE OF FLAMMABLE LIQUIDS, NO DISCHARGE OF CORROSIVE LIQUIDS).
- B) SIGNS AND PROHIBITIVE LANGUAGE AND/OR GRAPHICAL ICONS, WHICH PROHIBIT LEGAL 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.

**THE USE OF BEMIS IS SUBJECT TO THE FOLLOWING LIMITATIONS AND RESTRICTIONS:**

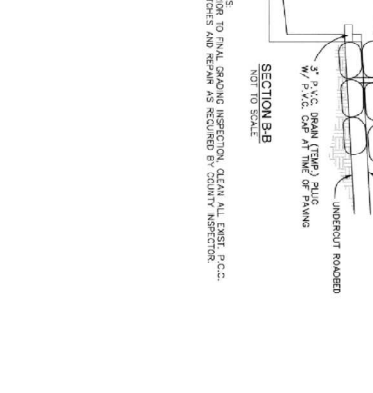
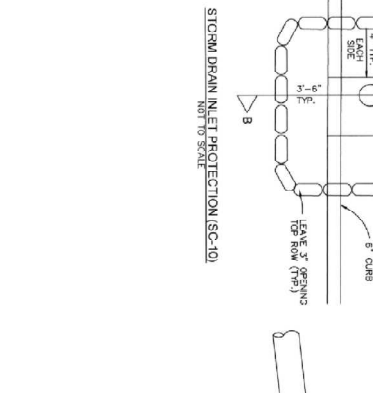
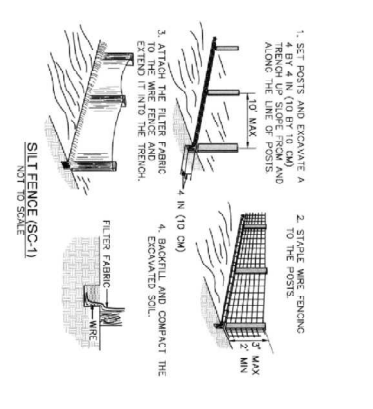
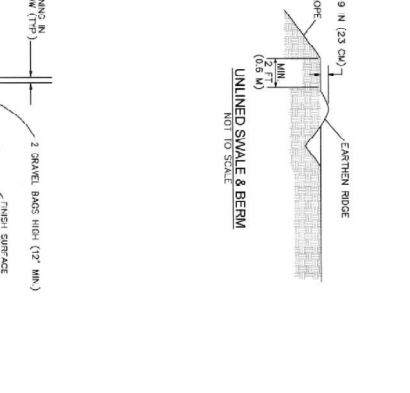
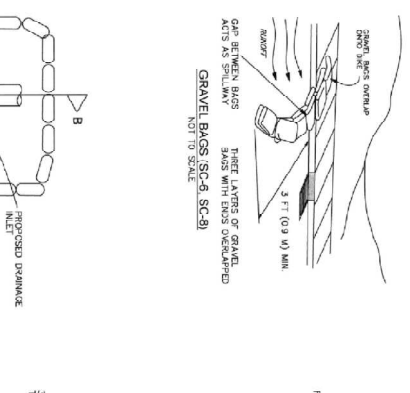
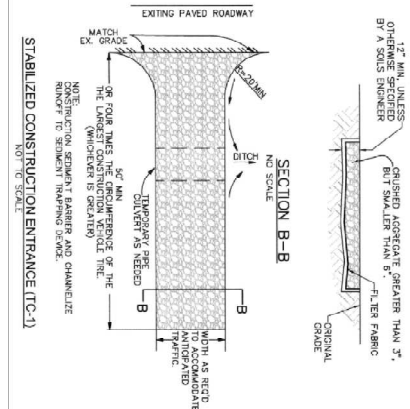
1. APPLICATION RATES SHALL BE 3000 POUNDS PER ACRE MINIMUM FOR 2:1 OR SHALLOWER SLOPES AND 4000 POUNDS PER ACRE FOR SLOPES STEEPER THAN 2:1.
2. BEMIS SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL.
3. THE SITE MUST BE PROTECTED WITH ROW DITCHES AND / OR DRAINAGE BERMS AT THE TOP OF SLOPES TO DIVERT FLOW FROM THE FACE OF THE SLOPE.
4. BEMIS SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLICATION FROM MULTIPLE DIRECTIONS).
5. FOR PERMANENT EROSION CONTROL PURPOSES, BEMIS MUST BE INSTALLED IN CONJUNCTION WITH PERMANENT EROSION CONTROL VEGETATION.
6. A LETTER FROM THE PROPOSED CONTRACTOR CERTIFYING THAT THE BEMIS HAS BEEN APPLIED TO THE ENTIRE PROJECT AREA SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL. REQUIREMENTS SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.

**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 PARADIGM 12.5 SHALL BE MAINTAINED ON THE JOB SITE IN A WATER TIGHT FORECAST RAIN.
2. NO AREA BEING DISTURBED SHALL EXCEED 40 ACRES AT ANY GIVEN TIME WITHOUT DEMONSTRATING TO THE SAN DIEGO COUNTY D.P.W. DIRECTORS SATISFACTION THAT ADEQUATE EROSION AND SEDIMENT CONTROL CAN BE MAINTAINED. ANY DISTURBED AREA UNTIL ADEQUATE LONG-TERM PROTECTION 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 STORM WATER REGULATIONS AT ALL TIMES. THE BEMIS BEST MANAGEMENT PRACTICES THAT HAVE EFFECTIVELY PREVENT THE POTENTIALLY NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE MAINTENANCE OF THE BEMIS IS THE PROPERTY OWNER'S RESPONSIBILITY AND FAILURE TO MAINTAIN THE BEMIS SHALL BE THE PROPERTY OWNER'S RESPONSIBILITY. THE MAINTENANCE OF THE BEMIS SHALL BE THE PROPERTY OWNER'S RESPONSIBILITY. THE MAINTENANCE OF THE BEMIS SHALL BE THE PROPERTY OWNER'S RESPONSIBILITY.
4. ON PROJECTS OF GREATER THAN ONE ACRE AND THE FOLLOWING NOTE: A NOTICE OF INTENT (NOI) HAS BEEN OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD AND THE COUNTY ENGINEER. THE BEMIS SHALL BE MAINTAINED AND CLEANED TO DESIGN CAPACITY. THE SEDIMENT RUNOFF SHALL BE MAINTAINED AND CLEANED TO DESIGN CAPACITY.

**EMERGENCY EROSION CONTROL MEASURES 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 BE REMOVED FROM THE PAD WITHOUT CAUSING EROSION. ON CONSTRUCT DAMAGE FACILITIES 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 THE 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 SLOPES SHALL BE PROTECTED WITH EROSION CONTROL MEASURES. EROSION CONTROL MEASURES SHALL BE INSTALLED IMMEDIATELY UPON THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.
5. CATCH BASINS, DESILTING BASINS AND STORM DRAIN SYSTEMS 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 ABOVE UNITS, RETAINED BY SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERFERED BY THE GRAVEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS NECESSARY TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE.
7. THE DEVELOPER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RETAINED BY SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERFERED BY THE GRAVEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS NECESSARY TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE.



**LEGEND:**

ITEM	CAL TRANS #	SYMBOL
SILT FENCE	SC-01	[Symbol]
STORM DRAIN INLET PROTECTION	SC-10	[Symbol]
VEHICLE TRACKING CONTROL	TC-01	[Symbol]
GRAVEL BAGS	SC-688	[Symbol]
FIBER ROLL	SC-05	[Symbol]
MATERIAL DELIVERY & STORAGE	WM-1	[Symbol]
CONCRETE WASTE MANAGEMENT	WM-4	[Symbol]
SOLID WASTE MANAGEMENT	WM-5	[Symbol]
SOLID WASTE MANAGEMENT	WM-9	[Symbol]
HAZARDOUS WASTE MANAGEMENT	WM-6	[Symbol]
HYDRAULIC MULCH	SS-3	[Symbol]
HYDROSEEDING	SS-4	[Symbol]
STRAW MULCH	SS-6	[Symbol]

**RECORD PLAN**

BY: LUKE A. GOSSEBE DATE: \_\_\_\_\_

R.C.E. 22888

EXPIRES: 06-30-22

**BENCH MARK**

DESCRIPTION: 3.25\"/>

**COUNTY APPROVED CHANGES**

NO.	DESCRIPTION:	APPROVED BY:	DATE:

**PRIVATE CONTRACT**

SHEET 17 OF 19 SHEETS

DEPARTMENT OF SAN DIEGO COUNTY OF PUBLIC WORKS

EROSION CONTROL DETAILS FOR:

**DIB2 SWEETWATER**

12800 SWEETWATER SPRINGS BLVD.  
SPRING VALLEY, CA 91798

CALIFORNIA COORDINATE INDEX 202-1779

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

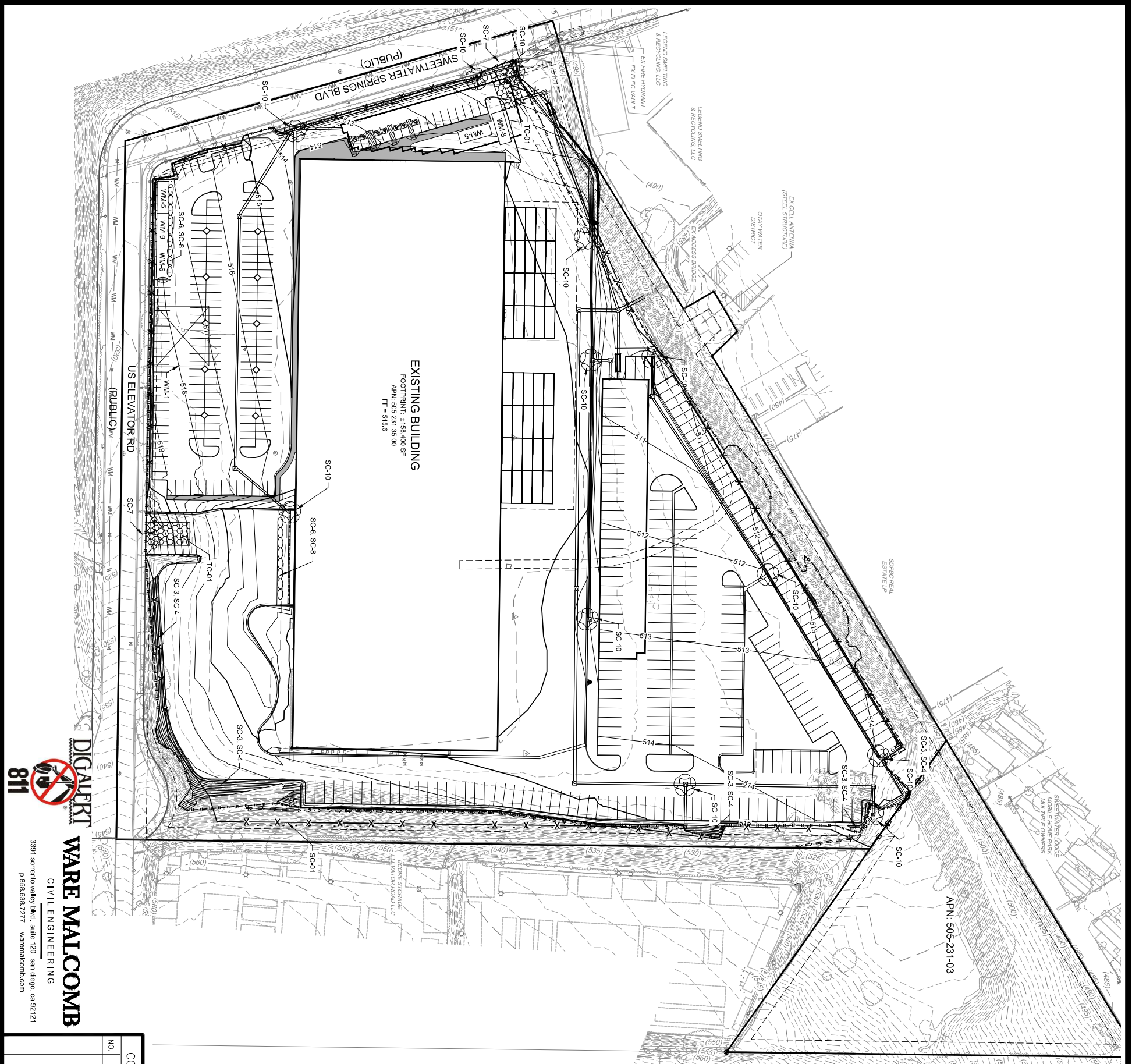
DATE: \_\_\_\_\_

**DIGALPRT CIVIL ENGINEERING**

**WARE MALCOMB**

3391 sorrento valley blvd., suite 120 san diego, ca 92121

p 858.638.7277 wwaremalcomb.com



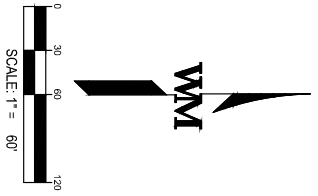
**EXISTING BUILDING**  
 FOOTPRINT: 419,400 SF  
 APN: 505-231-35-00  
 FF = 515.6

APN: 505-231-03

**DIGALPRT**  
**WARE MALCOMB**  
 CIVIL ENGINEERING  
 3391 sorrento valley blvd., suite 120 san diego, ca 92121  
 p 858.638.7277 wwaremalcomb.com

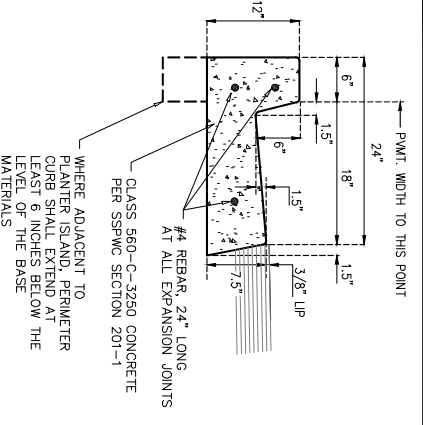
NO.	DESCRIPTION:	APPROVED BY:	DATE:
COUNTY APPROVED CHANGES			

<b>RECORD PLAN</b>		<b>PRIVATE CONTRACT</b>	
BY: LUKE A. GOSSBIE	DATE:	SHEET 18	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS SHEETS 19
R.C.E. 72888		EROSION CONTROL PLANS FOR:	
EXPIRES: 06-30-22		DIR2 SWEETWATER	
		12500 SWEETWATER SPRINGS BLVD. SPRING VALLEY, CA 91978	
		CALIFORNIA COORDINATE INDEX 202-1779	
DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SIMB#4, 2013"		DRAWN BY: _____	
LOCATION: TOP OF CURB INLET ON ELY SIDE OF JAMACHA BLVD.		CHECKED BY: _____	
RECORD FROM: SURVEY NO. 22097 AND GEOD. MODEL 128		DATE: _____	
ELEVATION: 518.044 USSE		DRAWING PERMIT NO. PDS2021-LDRM-30332	
DATUM: NAVD 1988		DATE: _____	
DATE: _____		DATE: _____	



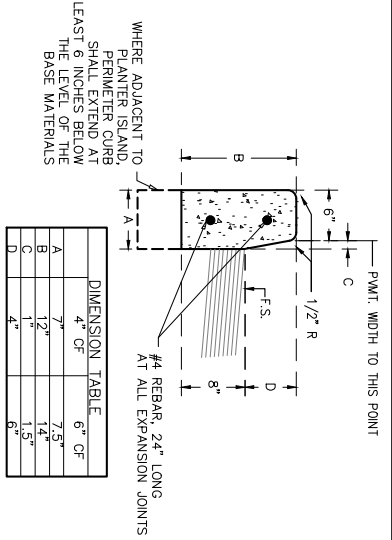
LEGEND:	ITEM	CAL TRANS #	SYMBOL
SILT FENCE	SC-01		X-X
COUNTY STANDARD LOT PERIMETER PROTECTION DETAIL	SC-2		—
FIBER ROLL	SC-5		FR
GRAVEL BAGS	SC-688		○-○-○-○
STREET SWEEPING AND VACUUMING	SC-7		□
STORM DRAIN INLET PROTECTION	SC-10		○
VEHICLE TRACKING CONTROL	TC-01		○
MATERIAL DELIVERY & STORAGE	WM-1		WM-1
SOLID WASTE MANAGEMENT	WM-5		WM-5
HAZARDOUS WASTE MANAGEMENT	WM-6		WM-6
CONCRETE WASTE MANAGEMENT	WM-8		WM-8
SOLID WASTE MANAGEMENT	WM-9		WM-9
HYDRAULIC MULCH	SS-3		SS-3
HYDROSEEDING	SS-4		SS-4





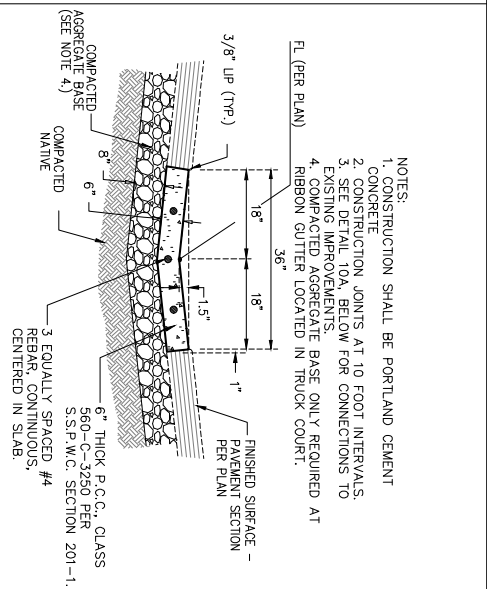
NOTES:  
 1. ALL CURBS SHALL BE PORTLAND CEMENT CONCRETE  
 2. CONSTRUCTION JOINTS AT 10 FOOT INTERVALS.  
 3. SEE DETAIL 10A, BELOW FOR CONNECTIONS TO EXISTING IMPROVEMENTS

2 PVT. PCC CURB & GUTTER



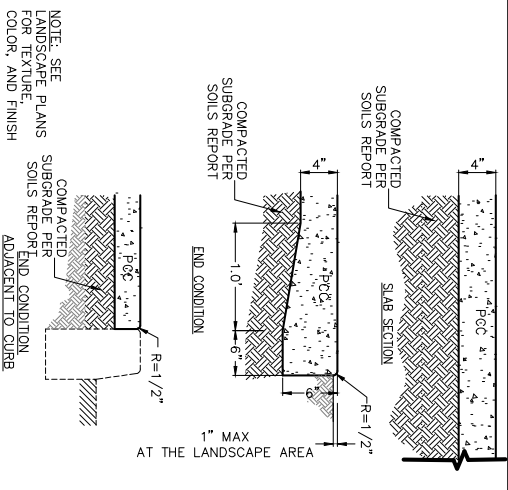
NOTES:  
 1. ALL CURBS SHALL BE PORTLAND CEMENT CONCRETE  
 2. CONSTRUCTION JOINTS AT 10 FOOT INTERVALS.  
 3. SEE DETAIL 10A, BELOW FOR CONNECTIONS TO EXISTING IMPROVEMENTS

3 PVT. PCC CURB



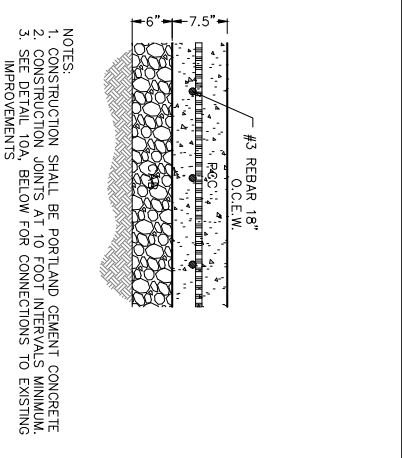
NOTES:  
 1. CONSTRUCTION SHALL BE PORTLAND CEMENT CONCRETE  
 2. CONSTRUCTION JOINTS AT 10 FOOT INTERVALS.  
 3. SEE DETAIL 10A, BELOW FOR CONNECTIONS TO EXISTING IMPROVEMENTS  
 4. RIBBON CUTTER LOCATED IN TRUCK COURT.

4 PVT. 3\"/>



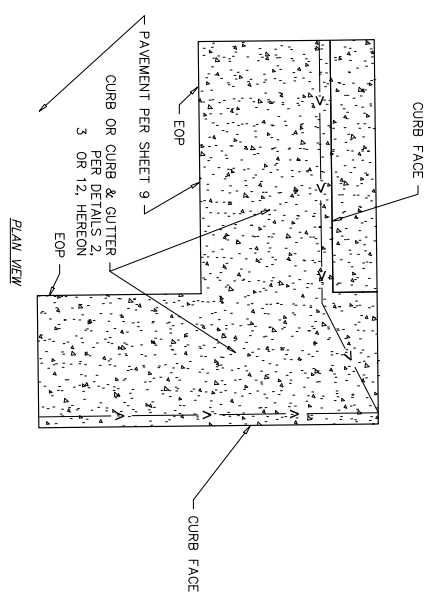
NOTE: SEE LANDSCAPE PLANS FOR TEXTURE, COLOR, AND FINISH

5 PVT. 4\"/>

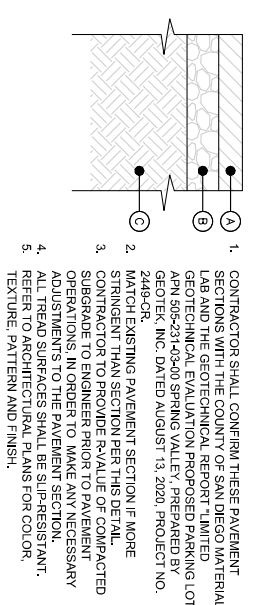


NOTES:  
 1. CONSTRUCTION SHALL BE PORTLAND CEMENT CONCRETE  
 2. CONSTRUCTION JOINTS AT 10 FOOT INTERVALS MINIMUM.  
 3. SEE DETAIL 10A, BELOW FOR CONNECTIONS TO EXISTING IMPROVEMENTS

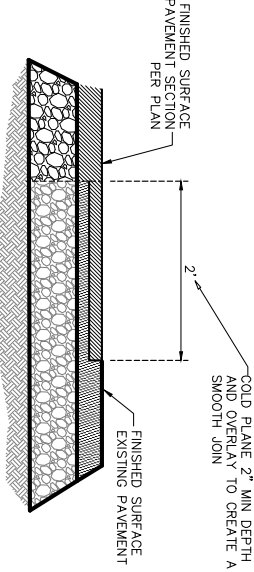
6 PVT. 7.5\"/>



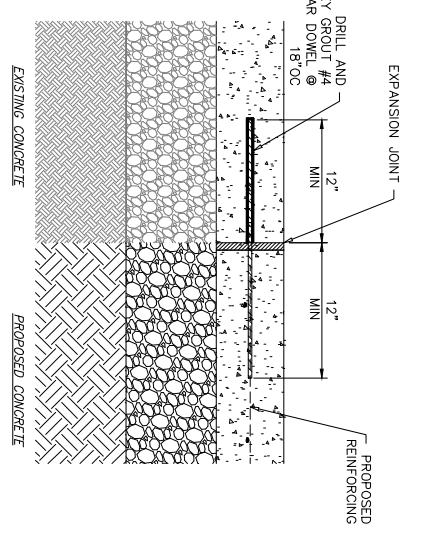
7 PVT. CURB OPENING



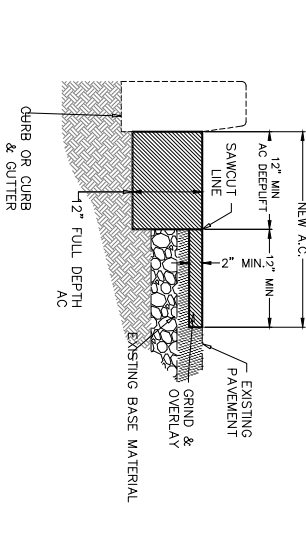
8 TRUNCATED DOMES



10B PVT. AC JOIN DETAIL



10A PVT. PCC JOIN DETAIL



11 PVT. AC REPLACEMENT

	HEAVY DUTY TRUCK TRAFFIC ASPHALT CONCRETE	STANDARD DUTY ASPHALT CONCRETE	VEHICULAR TRAFFIC AREA CONCRETE	HEAVY DUTY CONCRETE
A	0-3"	0-4"	0-6"	0-5 1/2"
B	0-4"	0-5"	0-0"	0-0"
C	1-0"	1-0"	1-0"	1-0"

1 PAVEMENT SECTION DETAIL  
NOT TO SCALE

1. CONTRACTOR SHALL CONFIRM THESE PAVEMENT SECTIONS WITH THE COUNTY OF SAN DIEGO MATERIALS DIVISION. THE CONTRACTOR SHALL OBTAIN A GEOTECHNICAL EVALUATION, PREPARED BY A REGISTERED PROFESSIONAL ENGINEER, FROM GEOTEK, INC. DATED AUGUST 13, 2020, PROJECT NO. 2448-QR.  
 2. MATCH EXISTING PAVEMENT SECTION IF MORE STRINGENT THAN SECTION PER THIS DETAIL.  
 3. CONTRACTOR TO PROVIDE R/VALUE OF COMPACTED SUBGRADE TO ENGINEER PRIOR TO PAVEMENT CONSTRUCTION. ALL TREAD SURFACES SHALL BE SLIP-RESISTANT. REFER TO ARCHITECTURAL PLANS FOR COLOR, TEXTURE, PATTERN AND FINISH.

FINISHED SURFACE AND OVERLAY TO CREATE A COLD PLANE 2" MIN DEPTH AND OVERLAY TO CREATE A FINISHED SURFACE EXISTING PAVEMENT PER PLAN

EXPANSION JOINT  
 DRILL AND EPOXY GROUT #4 BARS @ 18" OC.  
 PROPOSED REINFORCING  
 EXISTING CONCRETE  
 PROPOSED CONCRETE

NEW A.C.  
 12" MIN. AC DEPTH  
 SAWCUT LINE  
 EXISTING PAVEMENT  
 GRIND & OVERLAY  
 EXISTING BASE MATERIAL  
 12" FULL DEPTH AC  
 CURB OR GUTTER

CONTRACTOR SHALL CONFIRM THESE PAVEMENT SECTIONS WITH THE COUNTY OF SAN DIEGO MATERIALS DIVISION. THE CONTRACTOR SHALL OBTAIN A GEOTECHNICAL EVALUATION, PREPARED BY A REGISTERED PROFESSIONAL ENGINEER, FROM GEOTEK, INC. DATED AUGUST 13, 2020, PROJECT NO. 2448-QR.

**DIGAERT WARE MALCOMB**  
 CIVIL ENGINEERING  
 3391 sorrento valley Blvd., suite 120 san diego, ca 92121  
 p 858.638.7277 wwaremalcomb.com  
 811

COUNTY APPROVED CHANGES	
NO.	DESCRIPTION:
APPROVED BY:	DATE:

RECORD PLAN  
 BY: LUKE A. GOSSEBE DATE:  
 R.C.E. 22888  
 EXPIRES: 06-30-22  
 BENCH MARK  
 DESCRIPTION: 3.25" BRASS DISK STAMPED "SAN DIEGO COUNTY SURVEYOR, SURVEY CONTROL, SMRF4, 2013"  
 LOCATION: TOP OF CURB INLET ON E.T.V. SIDE OF JAMACHA BLVD.  
 RECORD FROM: SURVEY NO. 22097 AND GEOD. MODEL 128  
 ELEVATION: 518.044 USSE DATUM: NAD 1988  
 DATUM:

PRIVATE CONTRACT  
 COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS SHEET 19 OF 19  
 EROSION CONTROL DETAILS FOR: DIB2 SWEETWATER 12500 SWEETWATER SPRINGS BLVD. SPRING VALLEY, CA 91978  
 CALIFORNIA COORDINATE INDEX 202-1779  
 DRAWING OR WORKSHEET NO. PDS2021-LDRM-30332  
 SHEET NO. DATE:



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
**Attachment 5: Site and Drainage Description**

### 5.0 General Requirements

---

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

**Yes**

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

Title: Preliminary Hydrology/Hydraulics Study

Prepared By: Ware Malcomb

Date: January 14, 2021

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

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



**6.0 General Requirements**

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

<b>DMA Compliance Option</b>	<b>Required Sub-attachments or Printouts</b>	<b>BMPDM Design Resources</b>
<input checked="" type="checkbox"/> <b>Self-mitigating</b>	<ul style="list-style-type: none"> <li>• Sub-attachment 6.1</li> </ul>	<ul style="list-style-type: none"> <li>• BMPDM Section 5.2.1</li> </ul>
<input type="checkbox"/> <b>De minimis</b>	<ul style="list-style-type: none"> <li>• Sub-attachment 6.2</li> </ul>	<ul style="list-style-type: none"> <li>• BMPDM Section 5.2.2</li> </ul>
<input type="checkbox"/> <b>Self-retaining<sup>1</sup></b>  <b><u>SSD-BMP Type(s)</u></b>  <input type="checkbox"/> <b>Impervious Area Dispersion</b>  <input type="checkbox"/> <b>Tree Wells</b>	<ul style="list-style-type: none"> <li>• Sub-attachment 6.3</li> <li>• DCV calculations from SSD-BMP tool</li> <li>• Dispersion Areas calculations from SSD-BMP tool</li> <li>• DCV calculations from SSD-BMP tool</li> <li>• Tree Well calculations from SSD-BMP tool</li> </ul>	<ul style="list-style-type: none"> <li>• BMPDM Section 5.2.3 (all options)</li> <li>• Fact Sheet SD-B (Appendix E.8)</li> <li>• Appendix I</li> <li>• Fact Sheet SD-A (Appendix E.7)</li> <li>• Appendix I</li> </ul>

- 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.

<sup>1</sup> 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 <sup>2</sup> )	Incidental Impervious Area		Permit # and Sheet #
		b. Size(ft <sup>2</sup> )	c. % (b/a*100)	
3	39,419	321	0.81	
4	20,021	0	0	

- “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 fully 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 for every DMA listed.

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

Natural and Landscaped Areas

- 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.

Incidental Impervious Areas (if applicable; see above)

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 not self-mitigating if this area is 5% or greater.

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

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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.

<i>DMA #</i>	<i>DMA Area (ft<sup>2</sup>)</i>	<i>Permit # and Sheet #</i>

- “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 fully 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 <sup>2</sup> )	BMP Type (choose one per DMA)		Permit # and Sheet #
		Dispersion Area (Att. 6.3.1)	Tree Wells (Att. 6.3.2)	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	

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 fully 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**

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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](http://www.sandiegocounty.gov/stormwater) under the Development Resources tab.

## **Summary Sheet for Self-retaining DMAs with Tree Wells**

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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).

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

## 7.1 Engineer of Work Certification for Structural BMPs

**Project Name** DIB2-Sweetwater  
**Permit Application Number** PDS2021-LDGRMJ-30332

### 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).



72588      02/28/2022

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

Lucas Corsbie

Print Name

Ware Malcomb

Company

03/18/2021

Date

Engineer's Seal:



## 7.2 Structural BMP Strategy

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### 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. Onsite drainage systems will be installed to accommodate hydromodification and pollution control Best Management Practices (BMPs).

The site is divided into four Drainage Management Areas (DMAs). DMA 1 and DMA 2 will be implementing structural BMPs for pollutant control and flow control. DMA 3 and DMA 4 are self-mitigating areas, which do not require BMPs.

DMA 1 includes the north portion of the site. Runoff from DMA 1 will be collected in storm drain and conveyed by gravity to underground storage for hydromodification (BMP 1). Flow will drain into a BioClean Modular Wetland system for biofiltration pollution control (BMP 3). The BioClean Modular Wetland system and underground storage are sized to accommodate flows from DMA 1 in addition to having additional capacity for impervious and pervious areas that will be draining to the DMA 1 treatment system in a future phase. The additional impervious and pervious areas are from the 0.83 acres offsite area that drains into DMA 1 in the existing condition. Treated flows will be conveyed via storm drain pipe to the discharge point at the concrete channel as in the existing condition.

DMA 2 includes the warehouse building roof and surrounding parking/drive aisles in the south portion of the site. Runoff from DMA 2 will be collected in storm drain and conveyed by gravity to underground storage for hydromodification (BMP 2). The flow will drain into a BioClean Modular Wetland system for biofiltration pollution control (BMP 4). Treated flows will be conveyed via storm drain pipe to the discharge point at the concrete channel as in the existing condition.

APN: 505-231-03-00, 1-acre northeastern offsite area will continue to drain into the onsite as in the existing condition with intent to develop this area in the future. The runoff from this area is calculated as impervious area and the onsite system is sized to both treat and mitigate for this assumption.

**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 (ft <sup>2</sup> )	Structural BMP Type							Permit # and Sheet #
			Harvest and Use	Infiltration	Unlined Biofiltration	Lined Biofiltration	Flow-thru treatment	Hydromodification Management <sup>1</sup>	Other	
1	1	371,392	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2	2	249,471	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3	1	371,392	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	2	249,471	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Copy and Paste table here for additional BMPs

<sup>1</sup> Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

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

<b>Structural BMP ID #</b> 1	<b>Permit # and Sheet #</b> PDS2021-LDGRMJ-30332 PAGE 15			
<b>BMP Type</b>				
<b>Infiltration</b> <input type="checkbox"/> Infiltration basin (INF-1) <input type="checkbox"/> Bioretention (INF-2) <input type="checkbox"/> Permeable pavement (INF-3)		<b>Harvest and Use</b> <input type="checkbox"/> Cistern (HU-1)		
<b>Unlined Biofiltration</b> <input type="checkbox"/> Biofiltration with partial retention (PR-1)		<b>Flow-thru Treatment</b> (describe below) <input type="checkbox"/> With prior lawful approval to meet earlier PDP requirements <input type="checkbox"/> Pre-treatment/forebay for an onsite retention or biofiltration BMP <sup>2</sup> <input type="checkbox"/> With alternative compliance		
<b>Lined Biofiltration</b> <input type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Nutrient Sensitive Media Design (BF-2) <input type="checkbox"/> Proprietary Biofiltration (BF-3)		<b>Hydromodification Management</b> <sup>3</sup> <input checked="" type="checkbox"/> Detention pond or vault <input type="checkbox"/> <b>Other</b> (describe below)		
<b>BMP Purpose</b>				
<input type="checkbox"/> Pollutant control only <input checked="" type="checkbox"/> Hydromodification control only <input type="checkbox"/> Combined pollutant control and hydromodification		<input type="checkbox"/> Pre-treatment/forebay for another BMP <input type="checkbox"/> Other (describe below)		
<b>BMP Verification</b> (See BMPDM Section 8.3)				
Provide name and contact information for the party responsible to sign BMP verification forms		Luke Corsbie Ware Malcomb 949.660.9125 lcorsbie@waremalcomb.com		
<b>BMP Ownership and Maintenance</b> (See BMPDM Section 7.3 and Attachment 11)				
<b>BMP Maintenance Category</b>	<b>Cat. 1</b>	<b>Cat. 2</b>	<b>Cat. 3</b>	<b>Cat. 4</b>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Final owner of BMP</b>	<input type="checkbox"/> HOA <input checked="" type="checkbox"/> Property Owner <input type="checkbox"/> Other (describe):		<input type="checkbox"/> County	
<b>Maintenance of BMP into perpetuity</b>	<input type="checkbox"/> HOA <input checked="" type="checkbox"/> Property Owner <input type="checkbox"/> Other (describe):		<input type="checkbox"/> County	
<b>Discussion</b> (As needed; Continue on subsequent pages as necessary)				
Underground storage for DMA 1, which will drain into BMP 3 for treatment.				

<sup>2</sup> Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.

<sup>3</sup> Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

<b>Structural BMP ID #</b> 2	<b>Permit # and Sheet #</b> PDS2021-LDGRMJ-30332 PAGE 16			
<b>BMP Type</b>				
<b>Infiltration</b> <input type="checkbox"/> Infiltration basin (INF-1) <input type="checkbox"/> Bioretention (INF-2) <input type="checkbox"/> Permeable pavement (INF-3)		<b>Harvest and Use</b> <input type="checkbox"/> Cistern (HU-1)		
<b>Unlined Biofiltration</b> <input type="checkbox"/> Biofiltration with partial retention (PR-1)		<b>Flow-thru Treatment</b> (describe below) <input type="checkbox"/> With prior lawful approval to meet earlier PDP requirements <input type="checkbox"/> Pre-treatment/forebay for an onsite retention or biofiltration BMP <sup>2</sup> <input type="checkbox"/> With alternative compliance		
<b>Lined Biofiltration</b> <input type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Nutrient Sensitive Media Design (BF-2) <input type="checkbox"/> Proprietary Biofiltration (BF-3)		<b>Hydromodification Management</b> <sup>3</sup> <input checked="" type="checkbox"/> Detention pond or vault <input type="checkbox"/> <b>Other</b> (describe below)		
<b>BMP Purpose</b>				
<input type="checkbox"/> Pollutant control only <input checked="" type="checkbox"/> Hydromodification control only <input type="checkbox"/> Combined pollutant control and hydromodification		<input type="checkbox"/> Pre-treatment/forebay for another BMP <input type="checkbox"/> Other (describe below)		
<b>BMP Verification</b> (See BMPDM Section 8.3)				
Provide name and contact information for the party responsible to sign BMP verification forms		Luke Corsbie Ware Malcomb 949.660.9125 lccorsbie@waremalcomb.com		
<b>BMP Ownership and Maintenance</b> (See BMPDM Section 7.3 and Attachment 11)				
BMP Maintenance Category	Cat. 1	Cat. 2	Cat. 3	Cat. 4
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final owner of BMP	<input type="checkbox"/> HOA	<input checked="" type="checkbox"/> Property Owner	<input type="checkbox"/> County	
	<input type="checkbox"/> Other (describe):			
Maintenance of BMP into perpetuity	<input type="checkbox"/> HOA	<input checked="" type="checkbox"/> Property Owner	<input type="checkbox"/> County	
	<input type="checkbox"/> Other (describe):			
<b>Discussion</b> (As needed; Continue on subsequent pages as necessary)				
Underground storage for DMA 2, which will drain into BMP 4 for treatment.				

<sup>2</sup> Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.

<sup>3</sup> Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.



<b>Structural BMP ID #</b> 3	<b>Permit # and Sheet #</b> PDS2021-LDGRMJ-30332 PAGE 15			
<b>BMP Type</b>				
<b>Infiltration</b> <input type="checkbox"/> Infiltration basin (INF-1) <input type="checkbox"/> Bioretention (INF-2) <input type="checkbox"/> Permeable pavement (INF-3)		<b>Harvest and Use</b> <input type="checkbox"/> Cistern (HU-1)		
<b>Unlined Biofiltration</b> <input type="checkbox"/> Biofiltration with partial retention (PR-1)		<b>Flow-thru Treatment</b> (describe below) <input type="checkbox"/> With prior lawful approval to meet earlier PDP requirements <input type="checkbox"/> Pre-treatment/forebay for an onsite retention or biofiltration BMP <sup>2</sup> <input type="checkbox"/> With alternative compliance		
<b>Lined Biofiltration</b> <input type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Nutrient Sensitive Media Design (BF-2) <input checked="" type="checkbox"/> Proprietary Biofiltration (BF-3)		<b>Hydromodification Management</b> <sup>3</sup> <input type="checkbox"/> Detention pond or vault <input type="checkbox"/> <b>Other</b> (describe below)		
<b>BMP Purpose</b>				
<input checked="" type="checkbox"/> Pollutant control only <input type="checkbox"/> Hydromodification control only <input type="checkbox"/> Combined pollutant control and hydromodification		<input type="checkbox"/> Pre-treatment/forebay for another BMP <input type="checkbox"/> Other (describe below)		
<b>BMP Verification</b> (See BMPDM Section 8.3)				
Provide name and contact information for the party responsible to sign BMP verification forms		Luke Corsbie Ware Malcomb 949.660.9125 lcorbie@waremalcomb.com		
<b>BMP Ownership and Maintenance</b> (See BMPDM Section 7.3 and Attachment 11)				
BMP Maintenance Category	Cat. 1	Cat. 2	Cat. 3	Cat. 4
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final owner of BMP	<input type="checkbox"/> HOA	<input checked="" type="checkbox"/> Property Owner	<input type="checkbox"/> County	
	<input type="checkbox"/> Other (describe):			
Maintenance of BMP into perpetuity	<input type="checkbox"/> HOA	<input checked="" type="checkbox"/> Property Owner	<input type="checkbox"/> County	
	<input type="checkbox"/> Other (describe):			
<b>Discussion</b> (As needed; Continue on subsequent pages as necessary)				
Will treat runoff from DMA 1. Proprietary biofiltration downstream of storage unit.				

<sup>2</sup> Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.

<sup>3</sup> Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

<b>Structural BMP ID #</b> 4	<b>Permit # and Sheet #</b> PDS2021-LDGRMJ-30332 PAGE 16			
<b>BMP Type</b>				
<b>Infiltration</b> <input type="checkbox"/> Infiltration basin (INF-1) <input type="checkbox"/> Bioretention (INF-2) <input type="checkbox"/> Permeable pavement (INF-3)		<b>Harvest and Use</b> <input type="checkbox"/> Cistern (HU-1)		
<b>Unlined Biofiltration</b> <input type="checkbox"/> Biofiltration with partial retention (PR-1)		<b>Flow-thru Treatment</b> (describe below) <input type="checkbox"/> With prior lawful approval to meet earlier PDP requirements <input type="checkbox"/> Pre-treatment/forebay for an onsite retention or biofiltration BMP <sup>2</sup> <input type="checkbox"/> With alternative compliance		
<b>Lined Biofiltration</b> <input type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Nutrient Sensitive Media Design (BF-2) <input checked="" type="checkbox"/> Proprietary Biofiltration (BF-3)		<b>Hydromodification Management</b> <sup>3</sup> <input type="checkbox"/> Detention pond or vault <input type="checkbox"/> <b>Other</b> (describe below)		
<b>BMP Purpose</b>				
<input checked="" type="checkbox"/> Pollutant control only <input type="checkbox"/> Hydromodification control only <input type="checkbox"/> Combined pollutant control and hydromodification		<input type="checkbox"/> Pre-treatment/forebay for another BMP <input type="checkbox"/> Other (describe below)		
<b>BMP Verification</b> (See BMPDM Section 8.3)				
Provide name and contact information for the party responsible to sign BMP verification forms		Luke Corsbie Ware Malcomb 949.660.9125 lcorbie@waremalcomb.com		
<b>BMP Ownership and Maintenance</b> (See BMPDM Section 7.3 and Attachment 11)				
BMP Maintenance Category	Cat. 1	Cat. 2	Cat. 3	Cat. 4
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final owner of BMP	<input type="checkbox"/> HOA	<input checked="" type="checkbox"/> Property Owner	<input type="checkbox"/> County	
	<input type="checkbox"/> Other (describe):			
Maintenance of BMP into perpetuity	<input type="checkbox"/> HOA	<input checked="" type="checkbox"/> Property Owner	<input type="checkbox"/> County	
	<input type="checkbox"/> Other (describe):			
<b>Discussion</b> (As needed; Continue on subsequent pages as necessary)				
Will treat runoff from DMA 2.				

<sup>2</sup> Indicate which onsite retention or biofiltration BMP the pre-treatment/forebay serves.

<sup>3</sup> Hydromodification Management BMPs must be accompanied by BMPs that provide pollutant control.

## 7.4 Storm Water Pollutant Control Worksheet Calculations

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- 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
<input checked="" type="checkbox"/> Worksheet B.1 Calculation of Design Capture Volume (DCV)	Required
<input checked="" type="checkbox"/> Worksheet B.2 Retention Requirements	Required
<input checked="" type="checkbox"/> Worksheet B.3 BMP Performance	Required
<input type="checkbox"/> Worksheet B.4 Major Maintenance Intervals for Reduced-sized BMPs	If applicable
<input checked="" type="checkbox"/> Other worksheets	As required

## 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<sup>4</sup>, PDPs must also participate in an alternative compliance program<sup>5</sup>.

<p><b>A. General Description</b> 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).</p>			
<p><b>B. Water Body Impairments and Priorities</b> List any 303(d) impaired water bodies<sup>6</sup> 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:</p>			
303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant	
<p><b>C. Identification of Project Site Pollutants</b> Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix J.5)</p>			
Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Metals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organic Compounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trash & Debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oxygen Demanding Substances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil & Grease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bacteria & Viruses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pesticides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>4</sup> See BMPDM Appendix L: Prior Lawful Approval Requirements and Guidance.

<sup>5</sup> See SWQMP Attachment 12 (Alternative Compliance Projects) and BMPDM Appendix J (Offsite Alternative Compliance Requirements and Guidance).

<sup>6</sup> 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](https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml)

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

Category	#	Description	<i>i</i>	<i>ii</i>	<i>iii</i>	<i>iv</i>	<i>v</i>	<i>vi</i>	<i>vii</i>	<i>viii</i>	<i>ix</i>	<i>x</i>	Units	
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	1	2									unitless	
	2	85th Percentile 24-hr Storm Depth	0.52	0.52									inches	
	3	Impervious Surfaces <u>Not Directed to Dispersion Area</u> (C=0.90)	329,417	207,229										sq-ft
	4	Semi-Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.30)												sq-ft
	5	Engineered Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.10)	41,975	42,242										sq-ft
	6	Natural Type A Soil <u>Not Serving as Dispersion Area</u> (C=0.10)												sq-ft
	7	Natural Type B Soil <u>Not Serving as Dispersion Area</u> (C=0.14)												sq-ft
	8	Natural Type C Soil <u>Not Serving as Dispersion Area</u> (C=0.23)												sq-ft
	9	Natural Type D Soil <u>Not Serving as Dispersion Area</u> (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 <b>Directed to Dispersion Area</b> per SD-B (Ci=0.90)											sq-ft	
	12	Semi-Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.30)											sq-ft	
	13	Engineered Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)											sq-ft	
	14	Natural Type A Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)											sq-ft	
	15	Natural Type B Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.14)											sq-ft	
	16	Natural Type C Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.23)											sq-ft	
	17	Natural Type D Soil <b>Serving as Dispersion Area</b> 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												#
Initial Runoff Factor Calculation	21	Average Rain Barrel Size											gal	
	22	Total Tributary Area	371,392	249,471	0	0	0	0	0	0	0	0	sq-ft	
	23	Initial Runoff Factor for Standard Drainage Areas	0.81	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	0.00	unitless
	25	Initial Weighted Runoff Factor	0.81	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
Dispersion Area Adjustments	26	Initial Design Capture Volume	13,036	8,216	0	0	0	0	0	0	0	0	cubic-feet	
	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	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	1.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.81	0.76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	unitless
Tree & Barrel Adjustments	32	Design Capture Volume After Dispersion Techniques	13,036	8,216	0	0	0	0	0	0	0	0	cubic-feet	
	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	0	cubic-feet
	35	Final Adjusted Runoff Factor	0.81	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	300,828	189,598	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	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	13,036	8,216	0	0	0	0	0	0	0	0	0	cubic-feet
<b>No Warning Messages</b>														

**Automated Worksheet B.2: Retention Requirements (V2.0)**

Category	#	Description	<i>i</i>	<i>ii</i>	<i>iii</i>	<i>iv</i>	<i>v</i>	<i>vi</i>	<i>vii</i>	<i>viii</i>	<i>ix</i>	<i>x</i>	Units	
Basic Analysis	1	Drainage Basin ID or Name	1	2	-	-	-	-	-	-	-	-	unitless	
	2	85th Percentile Rainfall Depth	0.52	0.52	-	-	-	-	-	-	-	-	inches	
	3	Predominant NRCS Soil Type Within BMP Location	D	D									unitless	
	4	Is proposed BMP location Restricted or Unrestricted for Infiltration Activities?	Restricted	Restricted									unitless	
	5	Nature of Restriction	Slopes	Slopes									unitless	
	6	Do Minimum Retention Requirements Apply to this Project?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
	7	Are Habitable Structures Greater than 9 Stories Proposed?	No	No										yes/no
Advanced Analysis	8	Has Geotechnical Engineer Performed an Infiltration Analysis?	No	No									yes/no	
	9	Design Infiltration Rate Recommended by Geotechnical Engineer											in/hr	
Result	10	Design Infiltration Rate Used To Determine Retention Requirements	0.000	0.000	-	-	-	-	-	-	-	-	in/hr	
	11	Percent of Average Annual Runoff that Must be Retained within DMA	4.5%	4.5%	-	-	-	-	-	-	-	-	percentage	
	12	Fraction of DCV Requiring Retention	0.02	0.02	-	-	-	-	-	-	-	-	ratio	
	13	Required Retention Volume	261	164	-	-	-	-	-	-	-	-	cubic-feet	

**No Warning Messages**

**Automated Worksheet B.3: BMP Performance (V2.0)**

Category	#	Description	<i>i</i>	<i>ii</i>	<i>iii</i>	<i>iv</i>	<i>v</i>	<i>vi</i>	<i>vii</i>	<i>viii</i>	<i>ix</i>	<i>x</i>	Units	
BMP Inputs	1	Drainage Basin ID or Name	1	2	-	-	-	-	-	-	-	-	sq-ft	
	2	Design Infiltration Rate Recommended	0.000	0.000	-	-	-	-	-	-	-	-	in/hr	
	3	Design Capture Volume Tributary to BMP	13,036	8,216	-	-	-	-	-	-	-	-	cubic-feet	
	4	Is BMP Vegetated or Unvegetated?	Unvegetated	Unvegetated										unitless
	5	Is BMP Impermeably Lined or Unlined?	Lined	Lined										unitless
	6	Does BMP Have an Underdrain?	Underdrain	Underdrain										unitless
	7	Does BMP Utilize Standard or Specialized Media?	Specialized	Specialized										unitless
	8	Provided Surface Area	17,506	11,371										sq-ft
	9	Provided Surface Ponding Depth	20	22										inches
	10	Provided Soil Media Thickness	0	0										inches
	11	Provided Gravel Thickness (Total Thickness)	6	6										inches
	12	Underdrain Offset	3	3										inches
	13	Diameter of Underdrain or Hydromod Orifice (Select Smallest)	2.00	2.00										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	0	0	0	0	0	0	0	0	0	0	cubic-feet	
	19	Ponding Pore Space Available for Retention	0.00	0.00	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	0.05	0.05	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)	0.00	0.00	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	0.40	unitless
	23	Effective Retention Depth	1.20	1.20	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)	0.13	0.14	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	120	120	0	0	0	0	0	0	0	0	0	hours
	26	Efficacy of Retention Processes	0.15	0.16	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)	1,967	1,322	0	0	0	0	0	0	0	0	0	cubic-feet
	28	Design Capture Volume Remaining for Biofiltration	11,069	6,894	0	0	0	0	0	0	0	0	0	cubic-feet
Biofiltration Calculations	29	Max Hydromod Flow Rate through Underdrain	0.1422	0.1486	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	0.35	0.56	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	5.00	in/hr
	32	Soil Media Filtration Rate to be used for Sizing	0.35	0.56	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	2.11	3.39	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	1.00	1.00	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	0.35	0.35	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)	0.40	0.40	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	21.20	23.20	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	57	39	0	0	0	0	0	0	0	0	0	hours
	39	Drawdown Time for Effective Biofiltration Depth	60	41	0	0	0	0	0	0	0	0	0	hours
	40	Total Depth Biofiltered	23.31	26.59	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	16,604	10,341	0	0	0	0	0	0	0	0	0	cubic-feet
	42	Option 1 - Provided Biofiltration Volume	16,604	10,341	0	0	0	0	0	0	0	0	0	cubic-feet
	43	Option 2 - Store 0.75 DCV: Target Volume	8,302	5,170	0	0	0	0	0	0	0	0	0	cubic-feet
	44	Option 2 - Provided Storage Volume	8,302	5,170	0	0	0	0	0	0	0	0	0	cubic-feet
	45	Portion of Biofiltration Performance Standard Satisfied	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
Result	46	Do Site Design Elements and BMPs Satisfy Annual Retention Requirements?	Yes	Yes	-	-	-	-	-	-	-	-	yes/no	
	47	Overall Portion of Performance Standard Satisfied (BMP Efficacy Factor)	1.00	1.00	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	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	cubic-feet

**Attention!**

-Vegetated BMPs with surface ponding drawdown times over 24 hours must be certified by a landscape architect or agronomist. All BMPs must have a surface ponding drawdown time of 96 hours or less  
 -Use of specialized or proprietary media requires submittal of supplemental information outlined in Appendix F of the BMPDM



## Modular Wetland System Flow Calculations

Date: 7/20/2021

Project: DIB2 - Sweetwater

To Whom It May Concern,

The MWS Linear will be sized in accordance with its TAPE GULD approval. The system is approved at a loading rate of 1.0 gpm/sq ft for the Wetlandmedia and 2.1 gpm/sq ft for the pre-treatment media.

Modular Wetland Systems for this project will be designed with flow control risers containing multi-level orifices to achieve the required drain-down durations of the upstream detention systems containing the water quality volumes/design capture volumes (DCV).

If you have any questions, please feel free to contact us at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Woolery". The signature is fluid and cursive.

Matthew Woolery  
Stormwater Engineer, EIT







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**Detention System A (DCV chamber):**

Water quality volume = 12,324 cf;  $t_{\text{drain-down}} \leq 36$  hours

MWS-L-8-12-V:

- Desired treatment Flow Rate = 0.199 cfs
- MWS-Linear-8-12-Vault Treatment Capacity = 0.199 cfs or 89.31 gpm @ 3.6 ft Operating HGL
- WetlandMedia Surface Area = Wetland Perimeter x operating HGL = 159.84 sq ft
  - MWS-L-8-12 wetland perimeter = 44.40'
- WetlandMedia Loading Rate = 89.31 gpm / 159.84 sq ft = 0.56 gpm/sq ft (safety factor  $\approx 2$ )

**Orifice Sizing**

- Treatment flow = 89.31 gpm or 0.199 cfs
- Operating head = 3.6'
- 5 orifices  $\varnothing 1.10''$  each equally spaced 0.72' apart

$$Q = VA \Rightarrow Q = c_d \sqrt{2gh} * \frac{\pi \varnothing^2}{4}$$

$$Q_1 = (-0.0374 * 3.6 + 0.676) * \sqrt{2(32.17)(0.72)} * \frac{\pi \left(\frac{1.10}{12}\right)^2}{4} = 0.024 \text{ cfs}$$

$$Q_2 = (-0.0374 * 3.6 + 0.676) * \sqrt{2(32.17)(1.44)} * \frac{\pi \left(\frac{1.10}{12}\right)^2}{4} = 0.034 \text{ cfs}$$

$$Q_3 = (-0.0374 * 3.6 + 0.676) * \sqrt{2(32.17)(2.16)} * \frac{\pi \left(\frac{1.10}{12}\right)^2}{4} = 0.041 \text{ cfs}$$

$$Q_4 = (-0.0374 * 3.6 + 0.676) * \sqrt{2(32.17)(2.88)} * \frac{\pi \left(\frac{1.10}{12}\right)^2}{4} = 0.047 \text{ cfs}$$

$$Q_5 = (-0.0374 * 3.6 + 0.676) * \sqrt{2(32.17)(3.6)} * \frac{\pi \left(\frac{1.10}{12}\right)^2}{4} = 0.053 \text{ cfs}$$

Total treatment flow = 0.024 + 0.034 + 0.041 + 0.047 + 0.053 = **0.199 cfs**

**Drain-down duration:**

$t_{\text{drain-down}} = V_{\text{water quality}} / Q_{\text{design}}$

$$= \frac{12,324}{0.199} * \frac{1 \text{ hour}}{3600 \text{ s}} = \mathbf{17.20 \text{ hours}}$$



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**Detention System B (DCV chamber):**

Water quality volume = 19,554 cf;  $t_{\text{drain-down}} \leq 36$  hours

MWS-L-8-16-V:

- Desired treatment Flow Rate = 0.202 cfs
- MWS-Linear-8-16-Vault Treatment Capacity = 0.202 cfs or 90.66 gpm @ 4.1 ft Operating HGL
- WetlandMedia Surface Area = Wetland Perimeter x operating HGL = 242.72 sq ft
  - MWS-L-8-16 wetland perimeter = 59.20'
- WetlandMedia Loading Rate = 90.66 gpm / 242.72 sq ft = 0.37 gpm/sq ft (safety factor  $\approx 3$ )

**Orifice Sizing**

- Treatment flow = 90.66 gpm or 0.202 cfs
- Operating head = 4.1'
- 5 orifices  $\varnothing 1.09''$  each equally spaced 0.82' apart

$$Q = VA \Rightarrow Q = c_d \sqrt{2gh} * \frac{\pi \varnothing^2}{4}$$

$$Q_1 = (-0.0374 * 4.1 + 0.676) * \sqrt{2(32.17)(0.82)} * \frac{\pi \left(\frac{1.09}{12}\right)^2}{4} = 0.024 \text{ cfs}$$

$$Q_2 = (-0.0374 * 4.1 + 0.676) * \sqrt{2(32.17)(1.64)} * \frac{\pi \left(\frac{1.09}{12}\right)^2}{4} = 0.034 \text{ cfs}$$

$$Q_3 = (-0.0374 * 4.1 + 0.676) * \sqrt{2(32.17)(2.46)} * \frac{\pi \left(\frac{1.09}{12}\right)^2}{4} = 0.042 \text{ cfs}$$

$$Q_4 = (-0.0374 * 4.1 + 0.676) * \sqrt{2(32.17)(3.28)} * \frac{\pi \left(\frac{1.09}{12}\right)^2}{4} = 0.048 \text{ cfs}$$

$$Q_5 = (-0.0374 * 4.1 + 0.676) * \sqrt{2(32.17)(4.1)} * \frac{\pi \left(\frac{1.09}{12}\right)^2}{4} = 0.054 \text{ cfs}$$

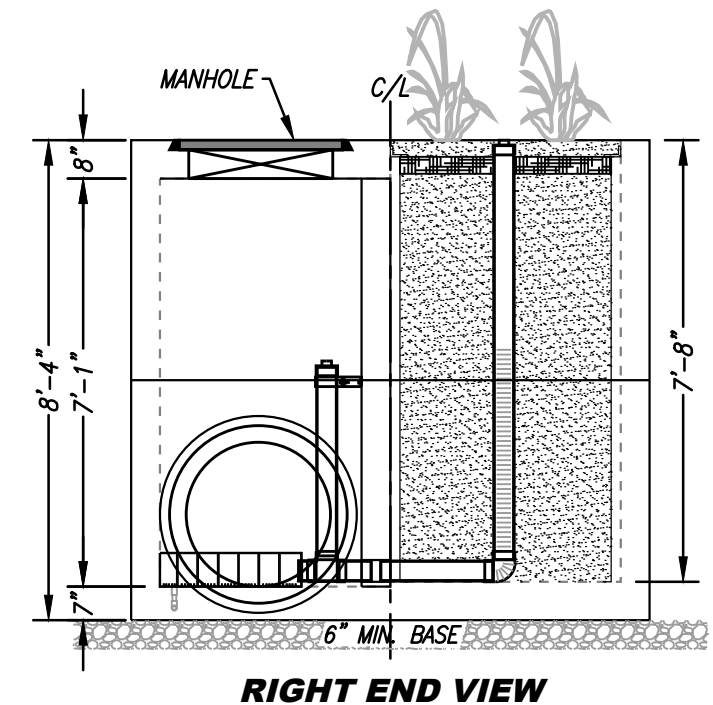
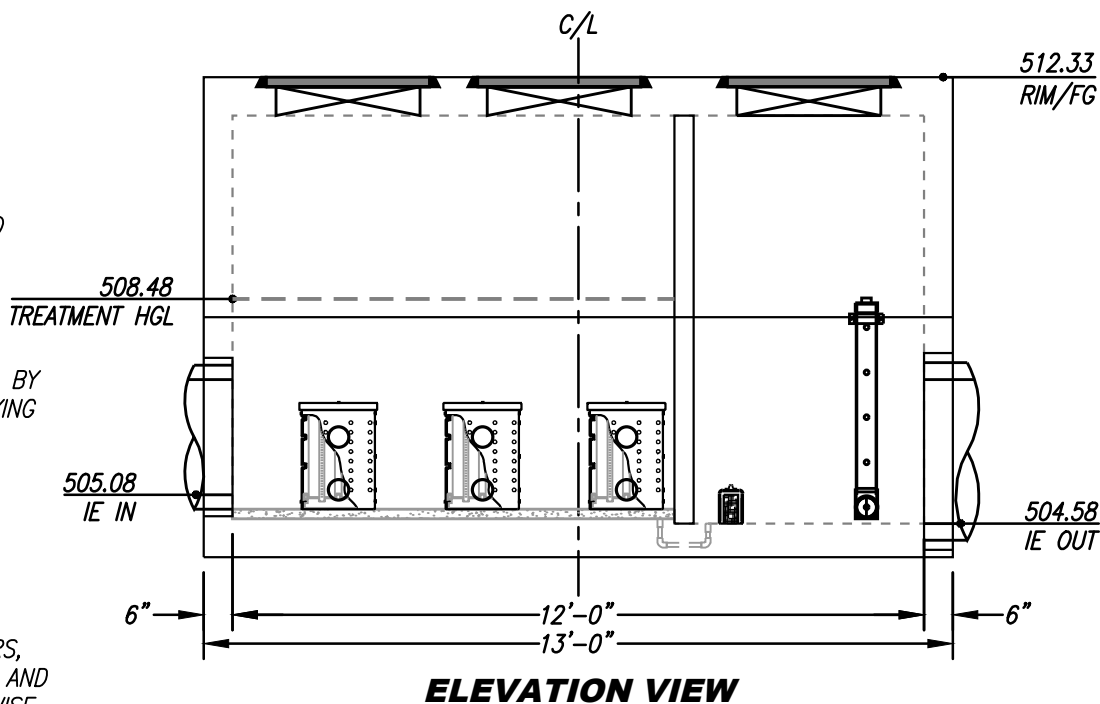
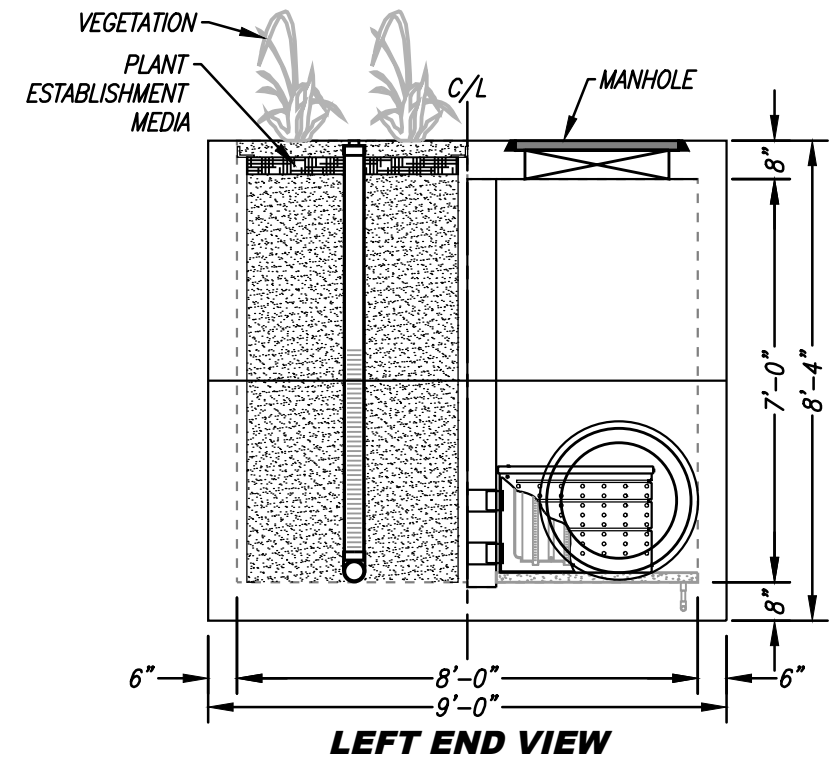
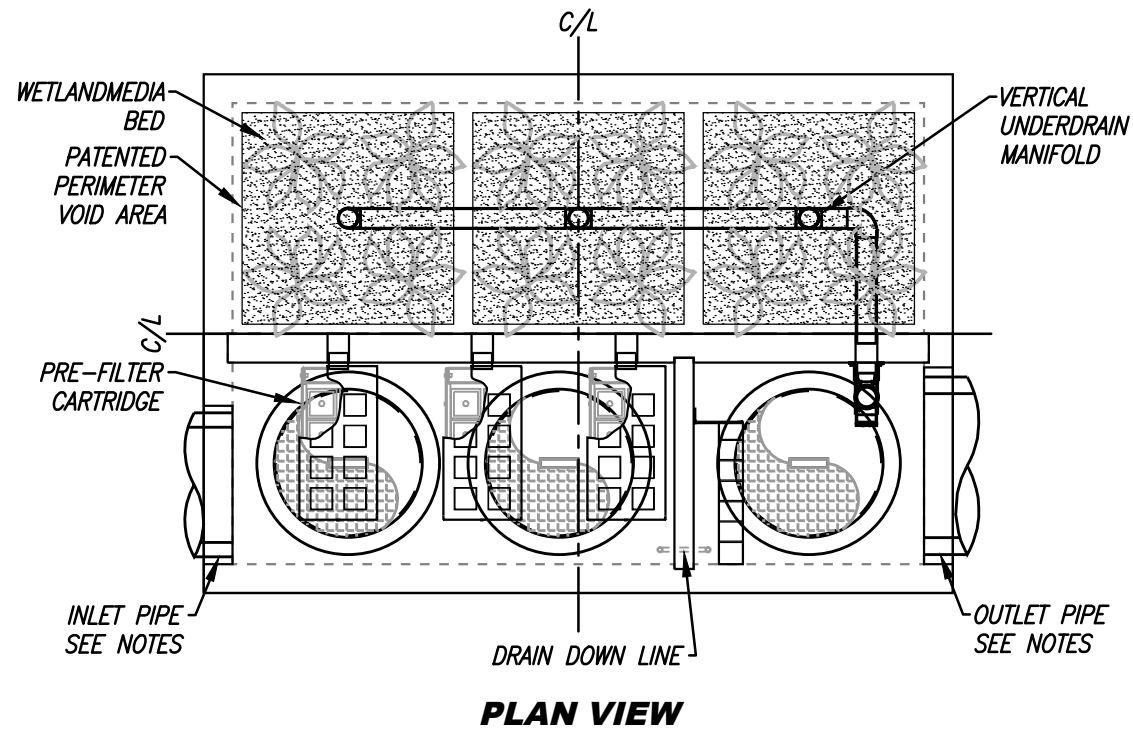
Total treatment flow = 0.024 + 0.034 + 0.042 + 0.048 + 0.054 = **0.202 cfs**

**Drain-down duration:**

$t_{\text{drain-down}} = V_{\text{water quality}} / Q_{\text{design}}$

$$= \frac{19,554}{0.202} * \frac{1 \text{ hour}}{3600 \text{ s}} = \mathbf{26.89 \text{ hours}}$$

SITE SPECIFIC DATA			
PROJECT NUMBER	12255		
PROJECT NAME	DIB2 - SWEETWATER		
PROJECT LOCATION	SPRING VALLEY, CA		
STRUCTURE ID	MWS A		
TREATMENT REQUIRED			
VOLUME BASED (CF)	FLOW BASED (CFS)		
12,324	N/A		
TREATMENT HGL AVAILABLE (FT)	N/K		
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	OFFLINE		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	505.08	HDPE	24"
OUTLET PIPE	504.58	HDPE	30"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	512.33	512.33	512.33
SURFACE LOAD	PEDESTRIAN	N/A	PEDESTRIAN
FRAME & COVER	2EA $\phi$ 30"	OPEN PLANTER	$\phi$ 30"
WETLANDMEDIA VOLUME (CY)	11.66		
ORIFICE SIZE (DIA. INCHES)	5 EA. $\phi$ 1.10"		
ORIFICE SPACING (FT)	0.72		
NOTES: PRELIMINARY NOT FOR CONSTRUCTION.			



**INSTALLATION NOTES**

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS' SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

**GENERAL NOTES**

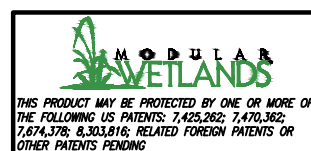
1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.

**LOW INFLOW PIPE DISCLOSURE:**

IT IS RECOMMENDED THAT A SUFFICIENT VARIATION IN ELEVATION BETWEEN THE INLET AND OUTLET BE PROVIDED TO ALLOW FOR ACCUMULATION OF SEDIMENT IN THE PRE-TREATMENT CHAMBER. FAILURE TO DO SO MAY RESULT IN BLOCKAGE AT INFLOW POINT(S) WHICH MAY CAUSE UPSTREAM FLOODING.

**RIGHT END VIEW**

REQUIRED TREATMENT VOLUME (CF)	12,324
DRAINDOWN DURATION (HOURS)	17
AVERAGE DISCHARGE RATE PER MWS UNIT(GPM)	89.51
OPERATING HEAD (FT)	3.6
WETLANDMEDIA INFILTRATION RATE (IN/HR)	56
WETLANDMEDIA LOADING RATE (GPM/SF)	OR 0.56



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**MWS-L-8-12-7'-8''-V**  
**STORMWATER BIOFILTRATION SYSTEM**  
**STANDARD DETAIL**

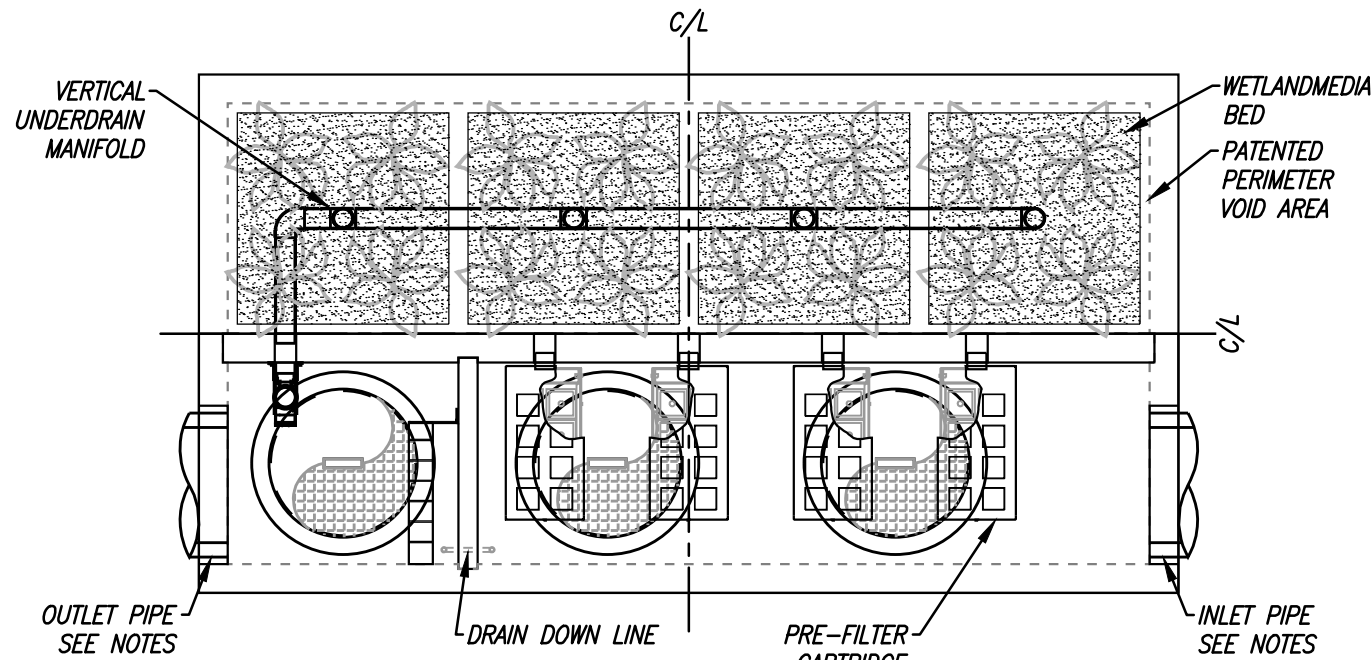
SITE SPECIFIC DATA			
PROJECT NUMBER	12255		
PROJECT NAME	DIB2 - SWEETWATER		
PROJECT LOCATION	SPRING VALLEY, CA		
STRUCTURE ID	MWS B		
TREATMENT REQUIRED			
VOLUME BASED (CF)	FLOW BASED (CFS)		
19,554	N/A		
TREATMENT HGL AVAILABLE (FT)	N/K		
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	OFFLINE		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	504.13	HDPE	24"
OUTLET PIPE	503.64	HDPE	24"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	511.81	511.81	511.81
SURFACE LOAD	PEDESTRIAN	N/A	PEDESTRIAN
FRAME & COVER	2EA Ø30"	OPEN PLANTER	Ø30"
WETLANDMEDIA VOLUME (CY)	16.40		
ORIFICE SIZE (DIA. INCHES)	5 EA. Ø1.09"		
ORIFICE SPACING (FT)	0.82		
NOTES: PRELIMINARY NOT FOR CONSTRUCTION.			

### INSTALLATION NOTES

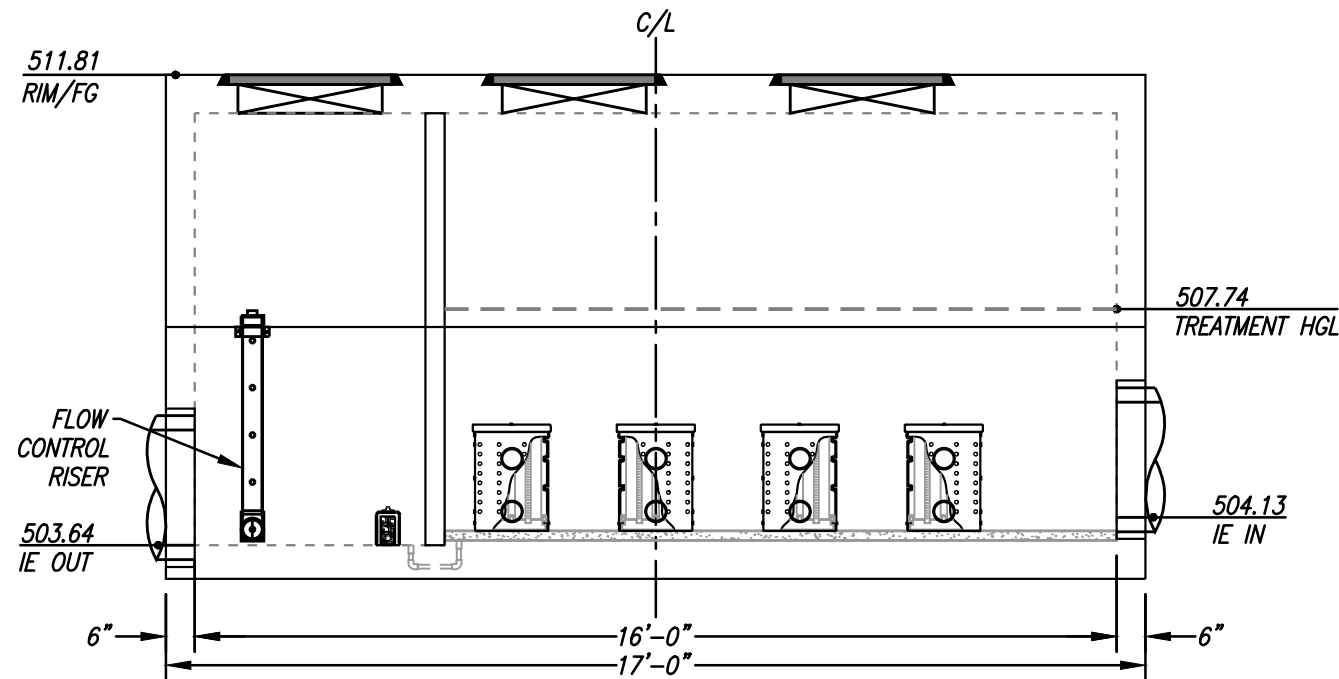
- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS' SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
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- CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

### GENERAL NOTES

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- ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.



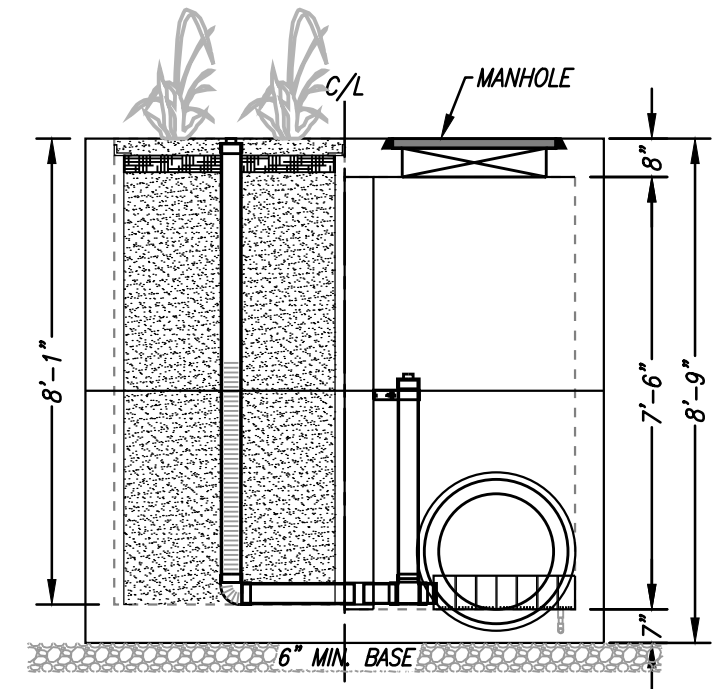
**PLAN VIEW**



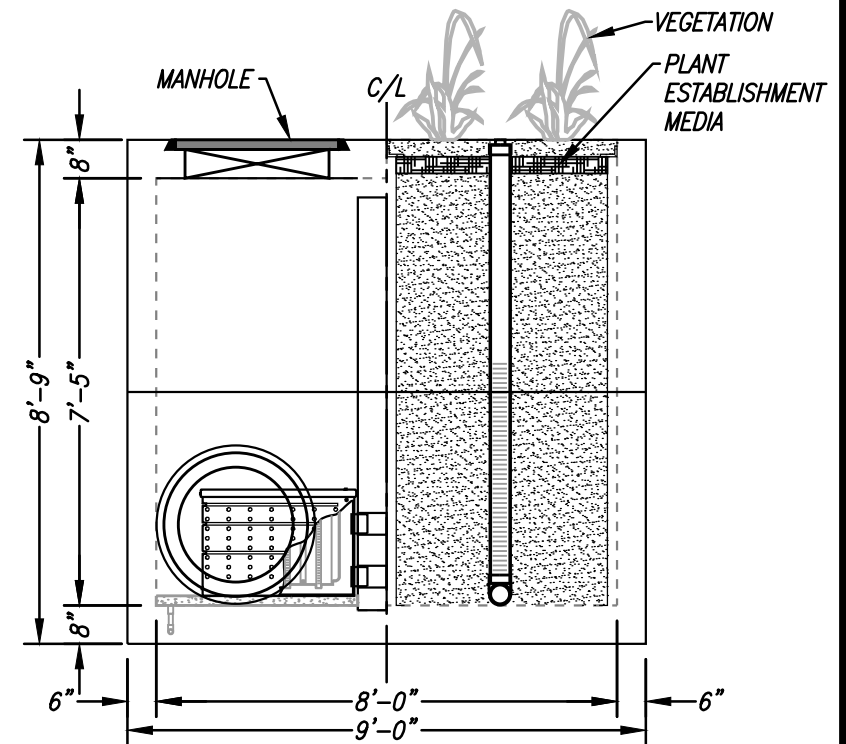
**ELEVATION VIEW**

### LOW INFLOW PIPE DISCLOSURE:

IT IS RECOMMENDED THAT A SUFFICIENT VARIATION IN ELEVATION BETWEEN THE INLET AND OUTLET BE PROVIDED TO ALLOW FOR ACCUMULATION OF SEDIMENT IN THE PRE-TREATMENT CHAMBER. FAILURE TO DO SO MAY RESULT IN BLOCKAGE AT INFLOW POINT(S) WHICH MAY CAUSE UPSTREAM FLOODING.

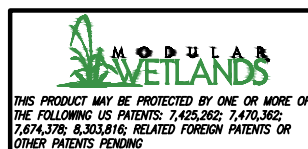


**LEFT END VIEW**



**RIGHT END VIEW**

REQUIRED TREATMENT VOLUME (CF)	19,554
DRAINDOWN DURATION (HOURS)	27
AVERAGE DISCHARGE RATE PER MWS UNIT(GPM)	89.81
OPERATING HEAD (FT)	4.1
WETLANDMEDIA INFILTRATION RATE (IN/HR)	37
WETLANDMEDIA LOADING RATE (GPM/SF)	0.37



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**MWS-L-8-16-8'-1"-V**  
**STORMWATER BIOFILTRATION SYSTEM**  
**STANDARD DETAIL**



**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).

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

<sup>1</sup> Including Structural BMP Drawdown Calculations and Overflow Design Summary. See BMPDM Chapter 6 and Appendix G for additional design guidance.



**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.
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Submit using <input type="checkbox"/> the Sub-attachment 8.3 cover sheet provided, or <input type="checkbox"/> as a separate stand-alone document labeled Sub-attachment 8.3.
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<sup>1</sup> 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**

---

### **Introduction**

This project is located in the jurisdiction of the County of San Diego and the flow control design is done in accordance with the County of San Diego BMP Design Manual Appendix G, Guidance for Continuous Simulation Hydrologic Modeling for Hydromodification Management Studies in San Diego County Region 9, (September 15, 2020). The project is the redevelopment of the parking area around an existing industrial warehouse building. By observation, the redeveloped area of the site is greater than 50% so hydromodification requirements apply to the entire site. For simplicity of the design, this project is treating the hydromodification mitigation of the site upstream and separate from the pollutant control aspect of the stormwater treatment. There are several software options to perform continuous simulation modeling listed in Appendix G. This study utilizes the program EPA-SWMM – Storm Water Management Model, distributed by USEPA, (public domain). The following section describe the respective values input into the SWMM models, the software results, and the overall conclusion of the study.

### **Climatology Parameters**

There are two main climatology parameters used in each SWMM study. The first being the rainfall information and the second being the evapotranspiration potential of the site. For the rainfall information there are several rain gage data files provided for use in the County of San Diego located on the Project Clean Water web site. Based on figure G.1-1 (Rainfall Station Map) in Appendix G, and based on the relative proximity to the site, and the similarity in elevation and terrain the rain gage data for Lower Otay Alert Station was chosen for use in this study. For the evapotranspiration parameters, the project location is plotted onto figure G.1-2 (California Irrigation Management Information System "Reference Evapotranspiration Zones") and evaporation zone 6 is read from the figure. The resulting evaporation values are read from Table G.1-1 (Monthly Average Reference Evapotranspiration by ETo Zone).

### **Soils Type**

Many of the rainfall loss parameters associated with SWMM studies are directly correlated with the underlying soils type(s) of the site. To estimate the soils type(s) present on the site the project boundary is exported as a GIS shape file and the resulting file(s) imported into the EPA Web Soils Survey. From the Web Soil Survey, the site is composed of entirely type D soils.

### **Rainfall Loss Parameters for SWMM**

In SWMM, rainfall loss parameters are entered in the "subcatchment" module. In addition to specifying various parameters, an infiltration model must be selected. For consistency across the San Diego region, the BMP Manual requires the use of the Green-Ampt infiltration model for hydromodification management studies.



Table G.1-4 of the BMP Manual presents SWMM subcatchment parameters for use in hydromodification management studies in the San Diego region. Except as noted in the following paragraphs, the default values for soils type D are used throughout the study.

#### **Subcatchment Areas**

The area for each subcatchment is measure from the scaled AutoCAD drawing of the site as is consistent with design practices within the industry.

#### **Subcatchment Widths**

The width for each subcatchment is calculated by estimating the average maximum overland flow length for each subcatchment and dividing the subcatchment area by the flow path length as is suggested in the SWMM program help file under the Subcatchments section.

#### **Subcatchment Slopes**

The slope for the pre-development study is estimated from historical topographical maps as approximately 7.2%. For the post development study, it is assumed that the overall average slope of the site including the roof areas is approximately 2%.

#### **Subcatchment Percent Impervious**

For the pre-development conditions the percent impervious is taken as 0% (natural conditions). For the post development conditions a value of 85% is assumed based on the hydrology manual estimate of percentage impervious for general commercial land use taken from table 3.1 (Runoff Coefficients for Urban Areas) of the San Diego County Hydrology Manual (June 2003).

#### **SWMM Model Input Values**

Printouts of the pre-development and post-development SWMM inp input files are included as attachments at the end of this section of the report. Please see those printouts for details of the file input values.

#### **SWMM Model Output Results**

Following the printouts of the SWMM inp files are the printouts of the SWMM report files generated after running the SWMM model. These files were checked to make sure that no nodes are flooded, and that storage nodes have reasonable depths among other things. Please see those printouts for details on the actual runs of the SWMM models.

#### **Statistical Flow Duration Results**

Following the printouts of the SWMM rpt files, printouts of the detailed results of the statistical analysis of the continuous simulation results of the pre- and post-development SWMM files are included. These printouts include the development of the Q10 and Q2 values used to determine the flow control limits, and the pass-fail comparison of the predevelopment and post development flow duration statistics.





### **Conclusion**

Based on the results from the SWMM study as presented here, the project meets the hydromodification requirements of the County of San Diego.





WATER QUALITY SUBCATCHMENTS  
SELF MITIGATING

2003

L-1003

DMA-201  
SELF MITIGATING

2003

L-1003T

DMA-101  
SELF MITIGATING

WATER QUALITY SUBCATCHMENTS  
SELF MITIGATING



**Project: DIB2 Sweetwater North System**



Chamber Model -  
Units -

SC-740  
Imperial [Click Here for Metric](#)

Number of chambers -  
Voids in the stone (porosity) -

493  
40 %

Base of Stone Elevation -

503.87 ft

Amount of Stone Above Chambers -

22 in

Amount of Stone Below Chambers -

6 in

Include Perimeter Stone in Calculations

Area of system -

17506 sf Min. Area - sf min. area

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Total Chamber (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch & St (cubic feet)	Cumulative Chamber (cubic feet)	Elevation (feet)
58	0.00	0.00	583.53	583.53	47437.19	508.70
57	0.00	0.00	583.53	583.53	46853.66	508.62
56	0.00	0.00	583.53	583.53	46270.13	508.54
55	0.00	0.00	583.53	583.53	45686.59	508.45
54	0.00	0.00	583.53	583.53	45103.06	508.37
53	0.00	0.00	583.53	583.53	44519.53	508.29
52	0.00	0.00	583.53	583.53	43935.99	508.20
51	0.00	0.00	583.53	583.53	43352.46	508.12
50	0.00	0.00	583.53	583.53	42768.93	508.04
49	0.00	0.00	583.53	583.53	42185.39	507.95
48	0.00	0.00	583.53	583.53	41601.86	507.87
47	0.00	0.00	583.53	583.53	41018.33	507.79
46	0.00	0.00	583.53	583.53	40434.79	507.70
45	0.00	0.00	583.53	583.53	39851.26	507.62
44	0.00	0.00	583.53	583.53	39267.73	507.54
43	0.00	0.00	583.53	583.53	38684.19	507.45
42	0.00	0.00	583.53	583.53	38100.66	507.37
41	0.00	0.00	583.53	583.53	37517.13	507.29
40	0.00	0.00	583.53	583.53	36933.59	507.20
39	0.00	0.00	583.53	583.53	36350.06	507.12
38	0.00	0.00	583.53	583.53	35766.53	507.04
37	0.00	0.00	583.53	583.53	35182.99	506.95
36	0.05	27.11	572.69	599.80	34599.46	506.87
35	0.16	80.32	551.41	631.72	33999.66	506.79
34	0.28	139.00	527.93	666.93	33367.93	506.70
33	0.60	297.75	464.43	762.19	32701.00	506.62
32	0.80	395.24	425.44	820.68	31938.82	506.54
31	0.95	468.68	396.06	864.74	31118.14	506.45
30	1.07	529.74	371.64	901.37	30253.39	506.37
29	1.18	581.98	350.74	932.72	29352.02	506.29
28	1.27	623.97	333.95	957.92	28419.30	506.20
27	1.36	668.02	316.33	984.35	27461.38	506.12
26	1.45	716.87	296.78	1013.66	26477.04	506.04
25	1.52	751.69	282.86	1034.55	25463.38	505.95
24	1.58	780.09	271.50	1051.59	24428.83	505.87
23	1.64	809.64	259.68	1069.32	23377.25	505.79

22	1.70	837.86	248.39	1086.25	22307.93	505.70
21	1.75	864.19	237.86	1102.05	21221.68	505.62
20	1.80	888.79	228.02	1116.81	20119.63	505.54
19	1.85	914.51	217.73	1132.24	19002.82	505.45
18	1.89	933.29	210.22	1143.51	17870.58	505.37
17	1.93	953.46	202.15	1155.61	16727.07	505.29
16	1.97	973.67	194.06	1167.74	15571.46	505.20
15	2.01	990.89	187.18	1178.07	14403.72	505.12
14	2.04	1008.18	180.26	1188.44	13225.65	505.04
13	2.07	1022.96	174.35	1197.31	12037.21	504.95
12	2.10	1037.72	168.44	1206.17	10839.90	504.87
11	2.13	1050.98	163.14	1214.12	9633.74	504.79
10	2.15	1061.85	158.79	1220.64	8419.62	504.70
9	2.18	1073.29	154.22	1227.51	7198.98	504.62
8	2.20	1083.79	150.02	1233.81	5971.47	504.54
7	2.21	1088.21	148.25	1236.46	4737.66	504.45
6	0.00	0.00	583.53	583.53	3501.20	504.37
5	0.00	0.00	583.53	583.53	2917.67	504.29
4	0.00	0.00	583.53	583.53	2334.13	504.20
3	0.00	0.00	583.53	583.53	1750.60	504.12
2	0.00	0.00	583.53	583.53	1167.07	504.04
1	0.00	0.00	583.53	583.53	583.53	503.95

**Project: DIB2 Sweetwater West System**



Chamber Model -  
Units -

SC-740  
Imperial [Click Here for Metric](#)

Number of chambers -  
Voids in the stone (porosity) -

309  
40 %

Base of Stone Elevation -

506.47 ft

Amount of Stone Above Chambers -

12 in

Amount of Stone Below Chambers -

6 in

Include Perimeter Stone in Calculations

Area of system -

11371 sf Min. Area - sf min. area

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Total Chamber (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch & St (cubic feet)	Cumulative Chamber (cubic feet)	Elevation (feet)
48	0.00	0.00	379.03	379.03	26712.89	510.47
47	0.00	0.00	379.03	379.03	26333.85	510.39
46	0.00	0.00	379.03	379.03	25954.82	510.30
45	0.00	0.00	379.03	379.03	25575.79	510.22
44	0.00	0.00	379.03	379.03	25196.75	510.14
43	0.00	0.00	379.03	379.03	24817.72	510.05
42	0.00	0.00	379.03	379.03	24438.69	509.97
41	0.00	0.00	379.03	379.03	24059.65	509.89
40	0.00	0.00	379.03	379.03	23680.62	509.80
39	0.00	0.00	379.03	379.03	23301.59	509.72
38	0.00	0.00	379.03	379.03	22922.55	509.64
37	0.00	0.00	379.03	379.03	22543.52	509.55
36	0.05	16.99	372.24	389.23	22164.49	509.47
35	0.16	50.34	358.90	409.24	21775.26	509.39
34	0.28	87.12	344.19	431.31	21366.02	509.30
33	0.60	186.62	304.38	491.01	20934.71	509.22
32	0.80	247.73	279.94	527.67	20443.70	509.14
31	0.95	293.76	261.53	555.29	19916.03	509.05
30	1.07	332.02	246.22	578.25	19360.75	508.97
29	1.18	364.77	233.12	597.90	18782.50	508.89
28	1.27	391.09	222.60	613.69	18184.60	508.80
27	1.36	418.70	211.55	630.25	17570.91	508.72
26	1.45	449.32	199.31	648.62	16940.66	508.64
25	1.52	471.14	190.58	661.72	16292.04	508.55
24	1.58	488.94	183.46	672.40	15630.32	508.47
23	1.64	507.46	176.05	683.51	14957.92	508.39
22	1.70	525.15	168.97	694.12	14274.41	508.30
21	1.75	541.65	162.37	704.03	13580.29	508.22
20	1.80	557.07	156.21	713.27	12876.26	508.14
19	1.85	573.19	149.76	722.95	12162.99	508.05
18	1.89	584.96	145.05	730.01	11440.04	507.97
17	1.93	597.61	139.99	737.60	10710.03	507.89
16	1.97	610.27	134.92	745.20	9972.43	507.80
15	2.01	621.07	130.61	751.67	9227.23	507.72
14	2.04	631.90	126.27	758.17	8475.56	507.64
13	2.07	641.16	122.57	763.73	7717.38	507.55

12	2.10	650.42	118.87	769.28	6953.65	507.47
11	2.13	658.73	115.54	774.27	6184.37	507.39
10	2.15	665.54	112.82	778.36	5410.10	507.30
9	2.18	672.71	109.95	782.66	4631.74	507.22
8	2.20	679.29	107.32	786.61	3849.08	507.14
7	2.21	682.06	106.21	788.27	3062.47	507.05
6	0.00	0.00	379.03	379.03	2274.20	506.97
5	0.00	0.00	379.03	379.03	1895.17	506.89
4	0.00	0.00	379.03	379.03	1516.13	506.80
3	0.00	0.00	379.03	379.03	1137.10	506.72
2	0.00	0.00	379.03	379.03	758.07	506.64
1	0.00	0.00	379.03	379.03	379.03	506.55



This sheet converts the stage storage information from the provided StormTech Data sheet and converts the stage storage data to equivalent "contour area" data that is usable by SWMM.

Chamber Model - **SC-740**  
 Units - **Imperial**

Number of chambers - **493**

Depth (in)	Depth (ft)	Inc Vol Total (cf)	Cont Area	SWMM Text
0	0.00	583.53	7002.4	DMA-201-STORAGE-CURVE 0 7002.4
1	0.08	583.53	7002.4	DMA-201-STORAGE-CURVE 0.083 7002.4
2	0.17	583.53	7002.4	DMA-201-STORAGE-CURVE 0.167 7002.4
3	0.25	583.53	7002.4	DMA-201-STORAGE-CURVE 0.25 7002.4
4	0.33	583.53	7002.4	DMA-201-STORAGE-CURVE 0.333 7002.4
5	0.42	583.53	7002.4	DMA-201-STORAGE-CURVE 0.417 7002.4
6	0.50	583.53	7002.4	DMA-201-STORAGE-CURVE 0.5 7002.4
7	0.58	1236.46	14837.52575	DMA-201-STORAGE-CURVE 0.583 14837.526
8	0.67	1233.81	14805.68617	DMA-201-STORAGE-CURVE 0.667 14805.686
9	0.75	1227.51	14730.09283	DMA-201-STORAGE-CURVE 0.75 14730.093
10	0.83	1220.64	14647.72075	DMA-201-STORAGE-CURVE 0.833 14647.721
11	0.92	1214.12	14569.42413	DMA-201-STORAGE-CURVE 0.917 14569.424
12	1.00	1206.17	14473.99905	DMA-201-STORAGE-CURVE 1 14473.999
13	1.08	1197.31	14367.68525	DMA-201-STORAGE-CURVE 1.083 14367.685
14	1.17	1188.44	14261.30078	DMA-201-STORAGE-CURVE 1.167 14261.301
15	1.25	1178.07	14136.81499	DMA-201-STORAGE-CURVE 1.25 14136.815
16	1.33	1167.74	14012.85671	DMA-201-STORAGE-CURVE 1.333 14012.857
17	1.42	1155.61	13867.34283	DMA-201-STORAGE-CURVE 1.417 13867.343
18	1.50	1143.51	13722.11325	DMA-201-STORAGE-CURVE 1.5 13722.113
19	1.58	1132.24	13586.90659	DMA-201-STORAGE-CURVE 1.583 13586.907
20	1.67	1116.81	13401.66325	DMA-201-STORAGE-CURVE 1.667 13401.663
21	1.75	1102.05	13224.59408	DMA-201-STORAGE-CURVE 1.75 13224.594
22	1.83	1086.25	13034.9945	DMA-201-STORAGE-CURVE 1.833 13034.995
23	1.92	1069.32	12831.83742	DMA-201-STORAGE-CURVE 1.917 12831.837
24	2.00	1051.59	12619.02575	DMA-201-STORAGE-CURVE 2 12619.026
25	2.08	1034.55	12414.57043	DMA-201-STORAGE-CURVE 2.083 12414.57
26	2.17	1013.66	12163.87172	DMA-201-STORAGE-CURVE 2.167 12163.872
27	2.25	984.35	11812.14908	DMA-201-STORAGE-CURVE 2.25 11812.149
28	2.33	957.92	11494.98575	DMA-201-STORAGE-CURVE 2.333 11494.986
29	2.42	932.72	11192.66993	DMA-201-STORAGE-CURVE 2.417 11192.67
30	2.50	901.37	10816.4945	DMA-201-STORAGE-CURVE 2.5 10816.495
31	2.58	864.74	10376.90283	DMA-201-STORAGE-CURVE 2.583 10376.903
32	2.67	820.68	9848.160333	DMA-201-STORAGE-CURVE 2.667 9848.16
33	2.75	762.19	9146.23022	DMA-201-STORAGE-CURVE 2.75 9146.23
34	2.83	666.93	8003.183854	DMA-201-STORAGE-CURVE 2.833 8003.184
35	2.92	631.72	7580.69886	DMA-201-STORAGE-CURVE 2.917 7580.699
36	3.00	599.80	7197.610416	DMA-201-STORAGE-CURVE 3 7197.61
37	3.08	583.53	7002.4	DMA-201-STORAGE-CURVE 3.083 7002.4
38	3.17	583.53	7002.4	DMA-201-STORAGE-CURVE 3.167 7002.4
39	3.25	583.53	7002.4	DMA-201-STORAGE-CURVE 3.25 7002.4
40	3.33	583.53	7002.4	DMA-201-STORAGE-CURVE 3.333 7002.4
41	3.42	583.53	7002.4	DMA-201-STORAGE-CURVE 3.417 7002.4
42	3.50	583.53	7002.4	DMA-201-STORAGE-CURVE 3.5 7002.4
43	3.58	583.53	7002.4	DMA-201-STORAGE-CURVE 3.583 7002.4
44	3.67	583.53	7002.4	DMA-201-STORAGE-CURVE 3.667 7002.4

DIB2 Sweetwater North

45	3.75	583.53	7002.4	DMA-201-STORAGE-CURVE	3.75	7002.4
46	3.83	583.53	7002.4	DMA-201-STORAGE-CURVE	3.833	7002.4
47	3.92	583.53	7002.4	DMA-201-STORAGE-CURVE	3.917	7002.4
48	4.00	583.53	7002.4	DMA-201-STORAGE-CURVE	4	7002.4
49	4.08	583.53	7002.4	DMA-201-STORAGE-CURVE	4.083	7002.4
50	4.17	583.53	7002.4	DMA-201-STORAGE-CURVE	4.167	7002.4
51	4.25	583.53	7002.4	DMA-201-STORAGE-CURVE	4.25	7002.4
52	4.33	583.53	7002.4	DMA-201-STORAGE-CURVE	4.333	7002.4
53	4.42	583.53	7002.4	DMA-201-STORAGE-CURVE	4.417	7002.4
54	4.50	583.53	7002.4	DMA-201-STORAGE-CURVE	4.5	7002.4
55	4.58	583.53	7002.4	DMA-201-STORAGE-CURVE	4.583	7002.4
56	4.67	583.53	7002.4	DMA-201-STORAGE-CURVE	4.667	7002.4
57	4.75	583.53	7002.4	DMA-201-STORAGE-CURVE	4.75	7002.4
58	4.83	583.53	7002.4	DMA-201-STORAGE-CURVE	4.833	7002.4

This sheet converts the stage storage information from the provided StormTech Data sheet and converts the stage storage data to equivalent "contour area" data that is usable by SWMM.

Chamber Model -

SC-740

Units -

Imperial

Number of chambers -

309

Depth (in)	Depth (ft)	Inc Vol Total (cf)	Cont Area	SWMM Text
0	0.00	379.03	4548.40	DMA-101-STORAGE-CURVE 0 4548.4
1	0.08	379.03	4548.40	DMA-101-STORAGE-CURVE 0.083 4548.4
2	0.17	379.03	4548.40	DMA-101-STORAGE-CURVE 0.167 4548.4
3	0.25	379.03	4548.40	DMA-101-STORAGE-CURVE 0.25 4548.4
4	0.33	379.03	4548.40	DMA-101-STORAGE-CURVE 0.333 4548.4
5	0.42	379.03	4548.40	DMA-101-STORAGE-CURVE 0.417 4548.4
6	0.50	379.03	4548.40	DMA-101-STORAGE-CURVE 0.5 4548.4
7	0.58	788.27	9459.26	DMA-101-STORAGE-CURVE 0.583 9459.26
8	0.67	786.61	9439.30	DMA-101-STORAGE-CURVE 0.667 9439.304
9	0.75	782.66	9391.92	DMA-101-STORAGE-CURVE 0.75 9391.924
10	0.83	778.36	9340.29	DMA-101-STORAGE-CURVE 0.833 9340.295
11	0.92	774.27	9291.22	DMA-101-STORAGE-CURVE 0.917 9291.22
12	1.00	769.28	9231.41	DMA-101-STORAGE-CURVE 1 9231.41
13	1.08	763.73	9164.78	DMA-101-STORAGE-CURVE 1.083 9164.776
14	1.17	758.17	9098.10	DMA-101-STORAGE-CURVE 1.167 9098.096
15	1.25	751.67	9020.07	DMA-101-STORAGE-CURVE 1.25 9020.072
16	1.33	745.20	8942.38	DMA-101-STORAGE-CURVE 1.333 8942.378
17	1.42	737.60	8851.17	DMA-101-STORAGE-CURVE 1.417 8851.173
18	1.50	730.01	8760.15	DMA-101-STORAGE-CURVE 1.5 8760.147
19	1.58	722.95	8675.40	DMA-101-STORAGE-CURVE 1.583 8675.403
20	1.67	713.27	8559.30	DMA-101-STORAGE-CURVE 1.667 8559.297
21	1.75	704.03	8448.31	DMA-101-STORAGE-CURVE 1.75 8448.315
22	1.83	694.12	8329.48	DMA-101-STORAGE-CURVE 1.833 8329.479
23	1.92	683.51	8202.14	DMA-101-STORAGE-CURVE 1.917 8202.145
24	2.00	672.40	8068.76	DMA-101-STORAGE-CURVE 2 8068.76
25	2.08	661.72	7940.61	DMA-101-STORAGE-CURVE 2.083 7940.612
26	2.17	648.62	7783.48	DMA-101-STORAGE-CURVE 2.167 7783.481
27	2.25	630.25	7563.03	DMA-101-STORAGE-CURVE 2.25 7563.03
28	2.33	613.69	7364.24	DMA-101-STORAGE-CURVE 2.333 7364.24
29	2.42	597.90	7174.76	DMA-101-STORAGE-CURVE 2.417 7174.756
30	2.50	578.25	6938.98	DMA-101-STORAGE-CURVE 2.5 6938.978
31	2.58	555.29	6663.45	DMA-101-STORAGE-CURVE 2.583 6663.453
32	2.67	527.67	6332.05	DMA-101-STORAGE-CURVE 2.667 6332.051
33	2.75	491.01	5892.10	DMA-101-STORAGE-CURVE 2.75 5892.099
34	2.83	431.31	5175.67	DMA-101-STORAGE-CURVE 2.833 5175.666
35	2.92	409.24	4910.86	DMA-101-STORAGE-CURVE 2.917 4910.863
36	3.00	389.23	4670.75	DMA-101-STORAGE-CURVE 3 4670.753
37	3.08	379.03	4548.40	DMA-101-STORAGE-CURVE 3.083 4548.4
38	3.17	379.03	4548.40	DMA-101-STORAGE-CURVE 3.167 4548.4
39	3.25	379.03	4548.40	DMA-101-STORAGE-CURVE 3.25 4548.4
40	3.33	379.03	4548.40	DMA-101-STORAGE-CURVE 3.333 4548.4
41	3.42	379.03	4548.40	DMA-101-STORAGE-CURVE 3.417 4548.4
42	3.50	379.03	4548.40	DMA-101-STORAGE-CURVE 3.5 4548.4

DIB2 Sweetwater West

43	3.58	379.03	4548.40
44	3.67	379.03	4548.40
45	3.75	379.03	4548.40
46	3.83	379.03	4548.40
47	3.92	379.03	4548.40
48	4.00	379.03	4548.40

DMA-101-STORAGE-CURVE	3.583	4548.4
DMA-101-STORAGE-CURVE	3.667	4548.4
DMA-101-STORAGE-CURVE	3.75	4548.4
DMA-101-STORAGE-CURVE	3.833	4548.4
DMA-101-STORAGE-CURVE	3.917	4548.4
DMA-101-STORAGE-CURVE	4	4548.4

DIB2 Drawdown Calculations.xlsx

DMA-101-STORAGE (West)      DMA-201-STORAGE (North)

Stage 1		
Max Depth	3.00	3.00
Upper Orifice Offset	2.00	2.00
Head on upper orifice	1.00	1.00
Upper Orifice D (ft)	0.1667	0.1667
Upper Orifice Q (cfh)	385	385
Lower Orifice Offset	0.00	0.00
Head on Lower Orifice	3.00	3.00
Lower Orifice D (ft)	0.1667	0.1667
Lower Orifice Q (cfh)	666	666
Total Orifice Discharge	666.19	666.19
Vol @ 36 in deep	22164.49	34599.46
Vol @ 24 in deep	15630.32	24428.83
Vol above upper orifice	6534.17	10170.63
Time to drain Stage 1 (hrs)	9.81	15.27
Stage 2		
Lower Orifice Offset	0.00	0.00
Head on Lower Orifice	2.00	2.00
Lower Orifice D (ft)	0.1667	0.1667
Lower Orifice Q (cfh)	544	544
Vol @ 24 in deep	15630.32	24428.83
Time to drain Stage 1 (hrs)	28.74	44.91
Total Drawdown Time (hrs)	38.54	60.18



Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\PRE-SWMM.inp SWMM inp File Listing

[TITLE]
;;Project Title/Notes
E-SWMM DB2-2 PRE-DEVELOPMENT

[OPTIONS]
;;Option Value
FLOW\_UNITS CFS
INFILTRATION GREEN\_AMPT
FLOW\_ROUTING KINWAVE
LINK\_OFFSETS DEPTH
MIN\_SLOPE 0
ALLOW\_PONDING YES
SKIP\_STEADY\_STATE NO

START\_DATE 08/28/1951
START\_TIME 00:00:00
REPORT\_START\_DATE 08/28/1951
REPORT\_START\_TIME 00:00:00
END\_DATE 03/16/2008
END\_TIME 23:00:00
SWEEP\_START 01/01
SWEEP\_END 12/31
DRY\_DAYS 0
REPORT\_STEP 01:00:00
WET\_STEP 00:15:00
DRY\_STEP 24:00:00
ROUTING\_STEP 0:01:00
RULE\_STEP 00:00:00

INERTIAL\_DAMPING PARTIAL
NORMAL\_FLOW\_LIMITED BOTH
FORCE\_MAIN\_EQUATION H-W
VARIABLE\_STEP 0.75
LENGTHENING\_STEP 0
MIN\_SURFAREA 0
MAX\_TRIALS 0
HEAD\_TOLERANCE 0
SYS\_FLOW\_TOL 5
LAT\_FLOW\_TOL 5
MINIMUM\_STEP 0.5
THREADS 1

[EVAPORATION]



County of San Diego Stormwater Quality Management Plan (SWQMP)

Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\PRE-SWMM.inp SWMM inp File Listing

;;Data Source Parameters
;;-----
MONTHLY 0.06 0.08 0.11 0.16 0.18 0.21 0.21 0.2 0.16 0.12 0.08 0.06
DRY\_ONLY NO

[RAINGAGES]
;;Name Format Interval SCF Source
;;-----
Otay INTENSITY 1:00 1.0 FILE "Lower\_Otay Alert Station.dat" Otay IN

[SUBCATCHMENTS]
;;Name Rain Gage Outlet Area %Imperv Width %Slope CurbLen SnowPack
;;-----
DMA-101 Otay POC-A 5.87198724953316 0 241 7.2 0
DMA-201 Otay POC-A 10.5602957102158 0 416 7.2 0

[SUBAREAS]
;;Subcatchment N-Imperv N-Perv S-Imperv S-Perv PctZero RouteTo PctRouted
;;-----
DMA-101 0.012 0.15 0.05 0.10 0 OUTLET
DMA-201 0.012 0.15 0.05 0.10 0 OUTLET

[INFILTRATION]
;;Subcatchment Suction Ksat IMD
;;-----
DMA-101 9.0 0.01875 0.30
DMA-201 9.0 0.01875 0.30

[OUTFALLS]
;;Name Elevation Type Stage Data Gated Route To
;;-----
POC-A 0 FREE NO

[REPORT]
;;Reporting Options
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS -2500.000 0.000 12500.000 10000.000



County of San Diego Stormwater Quality Management Plan (SWQMP)

Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\PRE-SWMM.inp SWMM inp File Listing

Units None

[COORDINATES]

Node	X-Coord	Y-Coord
POC-A	2562.020	5538.229

[VERTICES]

Link	X-Coord	Y-Coord
------	---------	---------

[Polygons]

Subcatchment	X-Coord	Y-Coord
DMA-101	3976.716	2266.327
DMA-201	5096.807	4886.367

[SYMBOLS]

Gage	X-Coord	Y-Coord
------	---------	---------

[BACKDROP]

FILE "PRE-SWMM.jpg"  
 DIMENSIONS -2500.000 0.000 12500.000 10000.000

End of Printout





*Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs*

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial  
2\PRE-SWMM.inp SWMM inp File Listing

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Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

[TITLE]
;;Project Title/Notes
P-SWMM DB2-2 POST-DEVELOPMENT

[OPTIONS]
;;Option Value
FLOW\_UNITS CFS
INFILTRATION GREEN\_AMPT
FLOW\_ROUTING KINWAVE
LINK\_OFFSETS DEPTH
MIN\_SLOPE 0
ALLOW\_PONDING YES
SKIP\_STEADY\_STATE NO

START\_DATE 08/28/1951
START\_TIME 00:00:00
REPORT\_START\_DATE 08/28/1951
REPORT\_START\_TIME 00:00:00
END\_DATE 03/16/2008
END\_TIME 23:00:00
SWEEP\_START 01/01
SWEEP\_END 12/31
DRY\_DAYS 0
REPORT\_STEP 01:00:00
WET\_STEP 00:15:00
DRY\_STEP 24:00:00
ROUTING\_STEP 0:01:00
RULE\_STEP 00:00:00

INERTIAL\_DAMPING PARTIAL
NORMAL\_FLOW\_LIMITED BOTH
FORCE\_MAIN\_EQUATION H-W
VARIABLE\_STEP 0.75
LENGTHENING\_STEP 0
MIN\_SURFAREA 0
MAX\_TRIALS 0
HEAD\_TOLERANCE 0
SYS\_FLOW\_TOL 5
LAT\_FLOW\_TOL 5
MINIMUM\_STEP 0.5
THREADS 1

[EVAPORATION]



County of San Diego Stormwater Quality Management Plan (SWQMP)

Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

```

;;Data Source      Parameters
;;-----
MONTHLY            0.06  0.08  0.11  0.16  0.18  0.21  0.21  0.2  0.16  0.12  0.08  0.06
DRY_ONLY          NO

[RAINGAGES]
;;Name            Format      Interval SCF      Source
;;-----
Otay              INTENSITY 1:00      1.0      FILE      "Lower_Otay Alert Station.dat" Otay      IN

[SUBCATCHMENTS]
;;Name            Rain Gage      Outlet      Area      %Imperv      Width      %Slope      CurbLen      SnowPack
;;-----
DMA-101           Otay           DMA-101-STORAGE 5.65152636581207 85      251      2      0
DMA-201           Otay           DMA-201-STORAGE 10.1051765071936 85      518      2      0

[SUBAREAS]
;;Subcatchment    N-Imperv      N-Perv      S-Imperv      S-Perv      PctZero      RouteTo      PctRouted
;;-----
DMA-101           0.012         0.15        0.05          0.10        25           OUTLET
DMA-201           0.012         0.15        0.05          0.10        25           OUTLET

[INFILTRATION]
;;Subcatchment    Suction      Ksat      IMD
;;-----
DMA-101           9.0          0.01875   0.30
DMA-201           9.0          0.01875   0.30

[OUTFALLS]
;;Name            Elevation      Type      Stage Data      Gated      Route To
;;-----
POC-A             0              FREE      NO

[STORAGE]
;;Name            Elev.      MaxDepth      InitDepth      Shape      Curve Name/Params      N/A      Fevap      Psi
Ksat      IMD
;;-----
DMA-101-STORAGE  0          4              0              TABULAR    DMA-101-STORAGE-CURVE  0          0
DMA-201-STORAGE  0          4              0              TABULAR    DMA-201-STORAGE-CURVE  0          0

[ORIFICES]
;;Name            From Node      To Node      Type      Offset      Qcoeff      Gated      CloseTime
File Path: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp
File Date: 6/2/2021 3:26:22 PM

```



Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

Table with 8 columns: Name, From Node, To Node, Type, CrestHt, Qcoeff, Gated, EndCon, EndCoeff. Rows include DMA-101-LOWER-ORIFICE, DMA-201-LOWER-ORIFICE, DMA-201-MID-ORIFICE, and DMA-101-MID-ORIFICE.

[WEIRS] Table with 10 columns: Name, From Node, To Node, Type, CrestHt, Qcoeff, Gated, EndCon, EndCoeff, YES. Rows include DMA-101-UPPER-WEIR and DMA-102-UPPER-WEIR.

[XSECTIONS] Table with 8 columns: Link, Shape, Geom1, Geom2, Geom3, Geom4, Barrels, Culvert. Rows include DMA-101-LOWER-ORIFICE, DMA-201-LOWER-ORIFICE, DMA-201-MID-ORIFICE, DMA-101-MID-ORIFICE, DMA-101-UPPER-WEIR, and DMA-102-UPPER-WEIR.

[CURVES] Table with 4 columns: Name, Type, X-Value, Y-Value. Rows include DMA-101-STORAGE-CURVE with X-values ranging from 0 to 1.25.



County of San Diego Stormwater Quality Management Plan (SWQMP)

Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

DMA-101-STORAGE-CURVE		1.333	8942.378
DMA-101-STORAGE-CURVE		1.417	8851.173
DMA-101-STORAGE-CURVE		1.5	8760.147
DMA-101-STORAGE-CURVE		1.583	8675.403
DMA-101-STORAGE-CURVE		1.667	8559.297
DMA-101-STORAGE-CURVE		1.75	8448.315
DMA-101-STORAGE-CURVE		1.833	8329.479
DMA-101-STORAGE-CURVE		1.917	8202.145
DMA-101-STORAGE-CURVE		2	8068.76
DMA-101-STORAGE-CURVE		2.083	7940.612
DMA-101-STORAGE-CURVE		2.167	7783.481
DMA-101-STORAGE-CURVE		2.25	7563.03
DMA-101-STORAGE-CURVE		2.333	7364.24
DMA-101-STORAGE-CURVE		2.417	7174.756
DMA-101-STORAGE-CURVE		2.5	6938.978
DMA-101-STORAGE-CURVE		2.583	6663.453
DMA-101-STORAGE-CURVE		2.667	6332.051
DMA-101-STORAGE-CURVE		2.75	5892.099
DMA-101-STORAGE-CURVE		2.833	5175.666
DMA-101-STORAGE-CURVE		2.917	4910.863
DMA-101-STORAGE-CURVE		3	4670.753
DMA-101-STORAGE-CURVE		3.083	4548.4
DMA-101-STORAGE-CURVE		3.167	4548.4
DMA-101-STORAGE-CURVE		3.25	4548.4
DMA-101-STORAGE-CURVE		3.333	4548.4
DMA-101-STORAGE-CURVE		3.417	4548.4
DMA-101-STORAGE-CURVE		3.5	4548.4
DMA-101-STORAGE-CURVE		3.583	4548.4
DMA-101-STORAGE-CURVE		3.667	4548.4
DMA-101-STORAGE-CURVE		3.75	4548.4
DMA-101-STORAGE-CURVE		3.833	4548.4
DMA-101-STORAGE-CURVE		3.917	4548.4
DMA-101-STORAGE-CURVE		4	4548.4
;			
DMA-201-STORAGE-CURVE	Storage	0	7002.4
DMA-201-STORAGE-CURVE		0.083	7002.4
DMA-201-STORAGE-CURVE		0.167	7002.4
DMA-201-STORAGE-CURVE		0.25	7002.4
DMA-201-STORAGE-CURVE		0.333	7002.4
DMA-201-STORAGE-CURVE		0.417	7002.4
DMA-201-STORAGE-CURVE		0.5	7002.4
DMA-201-STORAGE-CURVE		0.583	14837.526
DMA-201-STORAGE-CURVE		0.667	14805.686

File Path: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp Page 4 of 8

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County of San Diego Stormwater Quality Management Plan (SWQMP)

Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

DMA-201-STORAGE-CURVE	0.75	14730.093
DMA-201-STORAGE-CURVE	0.833	14647.721
DMA-201-STORAGE-CURVE	0.917	14569.424
DMA-201-STORAGE-CURVE	1	14473.999
DMA-201-STORAGE-CURVE	1.083	14367.685
DMA-201-STORAGE-CURVE	1.167	14261.301
DMA-201-STORAGE-CURVE	1.25	14136.815
DMA-201-STORAGE-CURVE	1.333	14012.857
DMA-201-STORAGE-CURVE	1.417	13867.343
DMA-201-STORAGE-CURVE	1.5	13722.113
DMA-201-STORAGE-CURVE	1.583	13586.907
DMA-201-STORAGE-CURVE	1.667	13401.663
DMA-201-STORAGE-CURVE	1.75	13224.594
DMA-201-STORAGE-CURVE	1.833	13034.995
DMA-201-STORAGE-CURVE	1.917	12831.837
DMA-201-STORAGE-CURVE	2	12619.026
DMA-201-STORAGE-CURVE	2.083	12414.57
DMA-201-STORAGE-CURVE	2.167	12163.872
DMA-201-STORAGE-CURVE	2.25	11812.149
DMA-201-STORAGE-CURVE	2.333	11494.986
DMA-201-STORAGE-CURVE	2.417	11192.67
DMA-201-STORAGE-CURVE	2.5	10816.495
DMA-201-STORAGE-CURVE	2.583	10376.903
DMA-201-STORAGE-CURVE	2.667	9848.16
DMA-201-STORAGE-CURVE	2.75	9146.23
DMA-201-STORAGE-CURVE	2.833	8003.184
DMA-201-STORAGE-CURVE	2.917	7580.699
DMA-201-STORAGE-CURVE	3	7197.61
DMA-201-STORAGE-CURVE	3.083	7002.4
DMA-201-STORAGE-CURVE	3.167	7002.4
DMA-201-STORAGE-CURVE	3.25	7002.4
DMA-201-STORAGE-CURVE	3.333	7002.4
DMA-201-STORAGE-CURVE	3.417	7002.4
DMA-201-STORAGE-CURVE	3.5	7002.4
DMA-201-STORAGE-CURVE	3.583	7002.4
DMA-201-STORAGE-CURVE	3.667	7002.4
DMA-201-STORAGE-CURVE	3.75	7002.4
DMA-201-STORAGE-CURVE	3.833	7002.4
DMA-201-STORAGE-CURVE	3.917	7002.4
DMA-201-STORAGE-CURVE	4	7002.4
DMA-201-STORAGE-CURVE	4.083	7002.4
DMA-201-STORAGE-CURVE	4.167	7002.4
DMA-201-STORAGE-CURVE	4.25	7002.4

File Path: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp Page 5 of 8

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County of San Diego Stormwater Quality Management Plan (SWQMP)

Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

DMA-201-STORAGE-CURVE	4.333	7002.4
DMA-201-STORAGE-CURVE	4.417	7002.4
DMA-201-STORAGE-CURVE	4.5	7002.4
DMA-201-STORAGE-CURVE	4.583	7002.4
DMA-201-STORAGE-CURVE	4.667	7002.4
DMA-201-STORAGE-CURVE	4.75	7002.4
DMA-201-STORAGE-CURVE	4.833	7002.4

```
[REPORT]
;;Reporting Options
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL
```

[TAGS]

```
[MAP]
DIMENSIONS -2500.000 0.000 12500.000 10000.000
Units None
```

```
[COORDINATES]
;;Node X-Coord Y-Coord
;;-----
POC-A 3054.314 5311.925
DMA-101-STORAGE 1672.278 3097.643
DMA-201-STORAGE 3647.587 4803.591
```

```
[VERTICES]
;;Link X-Coord Y-Coord
;;-----
DMA-101-LOWER-ORIFICE 1257.015 2772.166
DMA-101-LOWER-ORIFICE 202.020 2783.389
DMA-201-LOWER-ORIFICE 3411.897 4466.891
DMA-201-LOWER-ORIFICE 2704.826 4466.891
DMA-201-MID-ORIFICE 3375.942 4720.742
DMA-201-MID-ORIFICE 3067.161 4720.742
DMA-101-MID-ORIFICE 1185.681 3013.675
DMA-101-MID-ORIFICE 573.255 3009.941
DMA-101-UPPER-WEIR 1301.908 3254.770
DMA-101-UPPER-WEIR 864.198 3254.770
DMA-102-UPPER-WEIR 3483.727 4975.273
DMA-102-UPPER-WEIR 3100.421 4975.273
```



**Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs**

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

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```
[Polygons]
;;Subcatchment      X-Coord      Y-Coord
;;-----
DMA-101              4429.050     2044.327
DMA-201              5698.168     4960.327
```

```
[SYMBOLS]
;;Gage              X-Coord      Y-Coord
;;-----
```

```
[BACKDROP]
FILE      "POST-SWMM.jpg"
DIMENSIONS -2500.000 0.000 12500.000 10000.000
```

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End of Printout





**Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs**

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.inp SWMM inp File Listing

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File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\PRE-SWMM.rpt

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

E-SWMM DB2-2 PRE-DEVELOPMENT

\*\*\*\*\*  
Rainfall File Summary  
\*\*\*\*\*

Station ID	First Date	Last Date	Recording Frequency	Periods w/Precip	Periods Missing	Periods Malfunc.
Otay	08/28/1951	03/16/2008	60 min	8680	0	0

\*\*\*\*\*  
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
- RDII ..... NO
- Snowmelt ..... NO
- Groundwater ..... NO
- Flow Routing ..... NO
- Water Quality ..... NO

Infiltration Method ..... GREEN\_AMPT

Starting Date ..... 08/28/1951 00:00:00

Ending Date ..... 03/16/2008 23:00:00

Antecedent Dry Days ..... 0.0

Report Time Step ..... 01:00:00

Wet Time Step ..... 00:15:00

Dry Time Step ..... 00:00:00

\*\*\*\*\*

Runoff Quantity Continuity	Volume acre-feet	Depth inches
----------------------------	---------------------	-----------------



Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

SWMM rpt file listing

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\PRE-SWMM.rpt

*****		
Total Precipitation .....	812.015	592.990
Evaporation Loss .....	77.622	56.685
Infiltration Loss .....	651.752	475.955
Surface Runoff .....	134.970	98.565
Final Storage .....	0.000	0.000
Continuity Error (%) .....	-6.444	

*****		
Flow Routing Continuity	Volume	Volume
	acre-feet	10^6 gal
*****		
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	134.970	43.982
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	0.000	0.000
External Outflow .....	134.970	43.982
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	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  
\*\*\*\*\*

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-101	592.99	0.00	56.60	475.62	0.00	98.93	98.93	15.77	3.60	0.167
DMA-201	592.99	0.00	56.73	476.14	0.00	98.36	98.36	28.20	6.40	0.166

Analysis begun on: Wed Jun 2 15:27:20 2021  
Analysis ended on: Wed Jun 2 15:27:51 2021  
Total elapsed time: 00:00:31



File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\PRE-SWMM.rpt

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End of Printout



*File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\PRE-SWMM.rpt*

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File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.rpt

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

P-SWMM DB2-2 POST-DEVELOPMENT

\*\*\*\*\*
Rainfall File Summary
\*\*\*\*\*

Table with 7 columns: Station ID, First Date, Last Date, Recording Frequency, Periods w/Precip, Periods Missing, Periods Malfunc. Row 1: Otay, 08/28/1951, 03/16/2008, 60 min, 8680, 0, 0

\*\*\*\*\*
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
RDII ..... NO
Snowmelt ..... NO
Groundwater ..... NO
Flow Routing ..... YES
Ponding Allowed ..... YES
Water Quality ..... NO
Infiltration Method ..... GREEN\_AMPT
Flow Routing Method ..... KINWAVE
Starting Date ..... 08/28/1951 00:00:00
Ending Date ..... 03/16/2008 23:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 01:00:00
Wet Time Step ..... 00:15:00
Dry Time Step ..... 00:00:00
Routing Time Step ..... 60.00 sec



Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

SWMM rpt file listing

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.rpt

*****	Volume	Depth
Runoff Quantity Continuity	acre-feet	inches
*****	-----	-----
Total Precipitation .....	778.631	592.990
Evaporation Loss .....	133.314	101.529
Infiltration Loss .....	89.924	68.485
Surface Runoff .....	562.168	428.137
Final Storage .....	0.039	0.030
Continuity Error (%) .....	-0.875	

*****	Volume	Volume
Flow Routing Continuity	acre-feet	10^6 gal
*****	-----	-----
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	562.168	183.191
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	0.000	0.000
External Outflow .....	562.008	183.139
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	0.066	0.022
Continuity Error (%) .....	0.017	

\*\*\*\*\*  
Highest Flow Instability Indexes  
\*\*\*\*\*  
All links are stable.

\*\*\*\*\*  
Routing Time Step Summary  
\*\*\*\*\*

Minimum Time Step	:	60.00 sec
Average Time Step	:	60.00 sec
Maximum Time Step	:	60.00 sec
Percent in Steady State	:	0.00
Average Iterations per Step	:	1.00
Percent Not Converging	:	0.00



Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

SWMM rpt file listing

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.rpt

\*\*\*\*\*  
Subcatchment Runoff Summary  
\*\*\*\*\*

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-101	592.99	0.00	102.17	68.70	409.89	17.17	427.07	65.54	4.62	0.720
DMA-201	592.99	0.00	101.17	68.36	411.19	17.54	428.74	117.64	8.28	0.723

\*\*\*\*\*  
Node Depth Summary  
\*\*\*\*\*

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min	Reported Max Depth Feet
POC-A	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
DMA-101-STORAGE	STORAGE	0.04	3.33	3.33	16971 17:01	3.33
DMA-201-STORAGE	STORAGE	0.07	3.50	3.50	16971 17:01	3.50

\*\*\*\*\*  
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	Flow Balance Error Percent
POC-A	OUTFALL	0.00	11.89	16971 17:01	0	183	0.000
DMA-101-STORAGE	STORAGE	4.62	4.62	17230 06:01	65.5	65.5	0.015
DMA-201-STORAGE	STORAGE	8.28	8.28	17230 06:01	118	118	0.018





Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

SWMM rpt file listing

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.rpt

\*\*\*\*\*
Node Flooding Summary
\*\*\*\*\*

No nodes were flooded.

\*\*\*\*\*
Storage Volume Summary
\*\*\*\*\*

Table with columns: Storage Unit, Average Volume, Avg Pcnt Full, Evap Pcnt Loss, Exfil Pcnt Loss, Maximum Volume, Max Pcnt Full, Time of Max Occurrence, Maximum Outflow. Rows include DMA-101-STORAGE and DMA-201-STORAGE.

\*\*\*\*\*
Outfall Loading Summary
\*\*\*\*\*

Table with columns: Outfall Node, Flow Freq Pcnt, Avg Flow CFS, Max Flow CFS, Total Volume 10^6 gal. Rows include POC-A and System.

\*\*\*\*\*
Link Flow Summary
\*\*\*\*\*

Table with columns: Link, Type, Maximum |Flow| CFS, Time of Max Occurrence days hr:min, Maximum |Veloc| ft/sec, Max/ Full Flow, Max/ Full Depth. Row includes DMA-101-LOWER-ORIFICE ORIFICE.



Attachment 8: Documentation of DMAs with Structural Hydromodification BMPs

SWMM rpt file listing

File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.rpt

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DMA-201-LOWER-ORIFICE	ORIFICE	0.21	16971	17:01	0.00
DMA-201-MID-ORIFICE	ORIFICE	0.14	16971	17:01	0.00
DMA-101-MID-ORIFICE	ORIFICE	0.13	16971	17:01	0.00
DMA-101-UPPER-WEIR	WEIR	3.92	16971	17:01	0.00
DMA-102-UPPER-WEIR	WEIR	7.29	16971	17:01	0.00

\*\*\*\*\*  
 Conduit Surcharge Summary  
 \*\*\*\*\*

No conduits were surcharged.

Analysis begun on: Wed Jun 2 15:27:51 2021  
 Analysis ended on: Wed Jun 2 15:28:34 2021  
 Total elapsed time: 00:00:43

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 End of Printout



File Name: C:\Users\localadmin\Desktop\Ware Malcomb\DAL20-5012 Sweetwater Springs DIB2\Hydromod\SWMM Runs\21.06.02\Trial 2\POST-SWMM strLO 2.00.rpt

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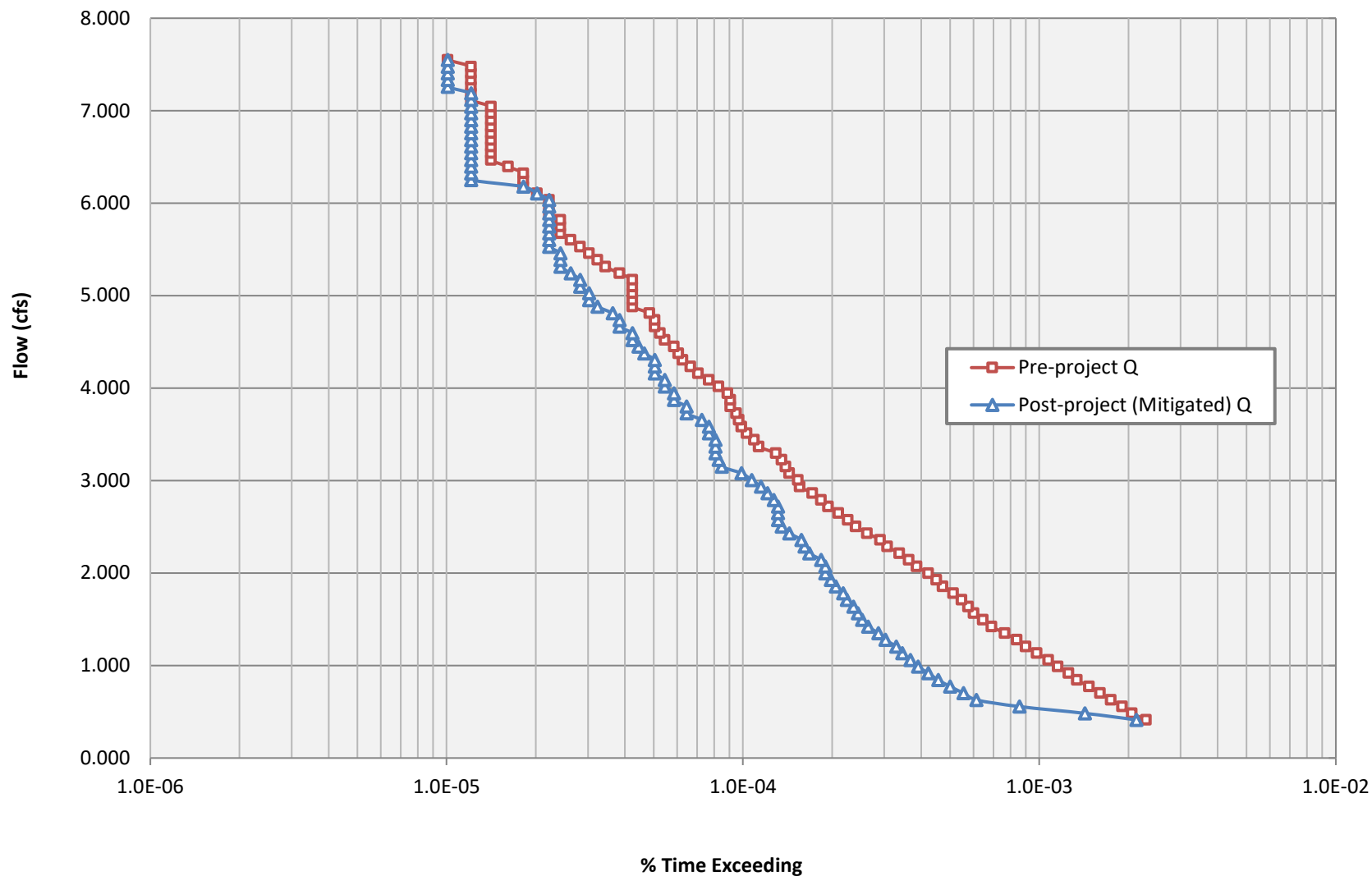
**Low-flow Threshold:** 10%  
**0.1xQ2 (Pre):** 0.413 cfs  
**Q10 (Pre):** 7.549 cfs  
**Ordinate #:** 99  
**Incremental Q (Pre):** 0.07208 cfs  
**Total Hourly Data:** 495743 hours

The proposed BMP: **PASSED**

Interval	Pre-project Flow (cfs)	Pre-project Hours	Pre-project % Time Exceeding	Post-project Hours	Post-project % Time Exceeding	Percentage	Pass/Fail
1	0.413	1136	2.29E-03	1054	2.13E-03	93%	Pass
2	0.485	1018	2.05E-03	706	1.42E-03	69%	Pass
3	0.557	943	1.90E-03	425	8.57E-04	45%	Pass
4	0.629	865	1.74E-03	304	6.13E-04	35%	Pass
5	0.701	795	1.60E-03	275	5.55E-04	35%	Pass
6	0.773	729	1.47E-03	248	5.00E-04	34%	Pass
7	0.845	664	1.34E-03	226	4.56E-04	34%	Pass
8	0.917	622	1.25E-03	209	4.22E-04	34%	Pass
9	0.989	572	1.15E-03	193	3.89E-04	34%	Pass
10	1.061	532	1.07E-03	182	3.67E-04	34%	Pass
11	1.133	486	9.80E-04	171	3.45E-04	35%	Pass
12	1.206	446	9.00E-04	163	3.29E-04	37%	Pass
13	1.278	416	8.39E-04	150	3.03E-04	36%	Pass
14	1.350	379	7.65E-04	142	2.86E-04	37%	Pass
15	1.422	342	6.90E-04	131	2.64E-04	38%	Pass
16	1.494	320	6.45E-04	125	2.52E-04	39%	Pass
17	1.566	298	6.01E-04	121	2.44E-04	41%	Pass
18	1.638	285	5.75E-04	117	2.36E-04	41%	Pass
19	1.710	271	5.47E-04	111	2.24E-04	41%	Pass
20	1.782	254	5.12E-04	108	2.18E-04	43%	Pass
21	1.854	234	4.72E-04	102	2.06E-04	44%	Pass
22	1.926	223	4.50E-04	98	1.98E-04	44%	Pass
23	1.998	209	4.22E-04	94	1.90E-04	45%	Pass
24	2.071	191	3.85E-04	94	1.90E-04	49%	Pass
25	2.143	180	3.63E-04	91	1.84E-04	51%	Pass
26	2.215	167	3.37E-04	83	1.67E-04	50%	Pass
27	2.287	152	3.07E-04	80	1.61E-04	53%	Pass
28	2.359	144	2.90E-04	78	1.57E-04	54%	Pass
29	2.431	130	2.62E-04	71	1.43E-04	55%	Pass
30	2.503	119	2.40E-04	67	1.35E-04	56%	Pass
31	2.575	112	2.26E-04	65	1.31E-04	58%	Pass
32	2.647	104	2.10E-04	65	1.31E-04	63%	Pass
33	2.719	96	1.94E-04	65	1.31E-04	68%	Pass
34	2.791	91	1.84E-04	63	1.27E-04	69%	Pass
35	2.863	85	1.71E-04	60	1.21E-04	71%	Pass
36	2.936	77	1.55E-04	57	1.15E-04	74%	Pass
37	3.008	76	1.53E-04	53	1.07E-04	70%	Pass
38	3.080	71	1.43E-04	49	9.88E-05	69%	Pass
39	3.152	69	1.39E-04	42	8.47E-05	61%	Pass
40	3.224	67	1.35E-04	41	8.27E-05	61%	Pass
41	3.296	64	1.29E-04	40	8.07E-05	63%	Pass
42	3.368	56	1.13E-04	40	8.07E-05	71%	Pass
43	3.440	54	1.09E-04	40	8.07E-05	74%	Pass
44	3.512	51	1.03E-04	38	7.67E-05	75%	Pass
45	3.584	49	9.88E-05	38	7.67E-05	78%	Pass
46	3.656	48	9.68E-05	36	7.26E-05	75%	Pass
47	3.729	47	9.48E-05	32	6.45E-05	68%	Pass
48	3.801	45	9.08E-05	32	6.45E-05	71%	Pass
49	3.873	45	9.08E-05	29	5.85E-05	64%	Pass
50	3.945	44	8.88E-05	29	5.85E-05	66%	Pass
51	4.017	41	8.27E-05	27	5.45E-05	66%	Pass
52	4.089	38	7.67E-05	27	5.45E-05	71%	Pass
53	4.161	35	7.06E-05	25	5.04E-05	71%	Pass
54	4.233	33	6.66E-05	25	5.04E-05	76%	Pass
55	4.305	31	6.25E-05	25	5.04E-05	81%	Pass

Interval	Pre-project Flow (cfs)	Pre-project Hours	Pre-project % Time Exceeding	Post-project Hours	Post-project % Time Exceeding	Percentage	Pass/Fail
56	4.377	30	6.05E-05	23	4.64E-05	77%	Pass
57	4.449	29	5.85E-05	22	4.44E-05	76%	Pass
58	4.521	27	5.45E-05	21	4.24E-05	78%	Pass
59	4.594	26	5.24E-05	21	4.24E-05	81%	Pass
60	4.666	25	5.04E-05	19	3.83E-05	76%	Pass
61	4.738	25	5.04E-05	19	3.83E-05	76%	Pass
62	4.810	24	4.84E-05	18	3.63E-05	75%	Pass
63	4.882	21	4.24E-05	16	3.23E-05	76%	Pass
64	4.954	21	4.24E-05	15	3.03E-05	71%	Pass
65	5.026	21	4.24E-05	15	3.03E-05	71%	Pass
66	5.098	21	4.24E-05	14	2.82E-05	67%	Pass
67	5.170	21	4.24E-05	14	2.82E-05	67%	Pass
68	5.242	19	3.83E-05	13	2.62E-05	68%	Pass
69	5.314	17	3.43E-05	12	2.42E-05	71%	Pass
70	5.386	16	3.23E-05	12	2.42E-05	75%	Pass
71	5.459	15	3.03E-05	12	2.42E-05	80%	Pass
72	5.531	14	2.82E-05	11	2.22E-05	79%	Pass
73	5.603	13	2.62E-05	11	2.22E-05	85%	Pass
74	5.675	12	2.42E-05	11	2.22E-05	92%	Pass
75	5.747	12	2.42E-05	11	2.22E-05	92%	Pass
76	5.819	12	2.42E-05	11	2.22E-05	92%	Pass
77	5.891	11	2.22E-05	11	2.22E-05	100%	Pass
78	5.963	11	2.22E-05	11	2.22E-05	100%	Pass
79	6.035	11	2.22E-05	11	2.22E-05	100%	Pass
80	6.107	10	2.02E-05	10	2.02E-05	100%	Pass
81	6.179	9	1.82E-05	9	1.82E-05	100%	Pass
82	6.251	9	1.82E-05	6	1.21E-05	67%	Pass
83	6.324	9	1.82E-05	6	1.21E-05	67%	Pass
84	6.396	8	1.61E-05	6	1.21E-05	75%	Pass
85	6.468	7	1.41E-05	6	1.21E-05	86%	Pass
86	6.540	7	1.41E-05	6	1.21E-05	86%	Pass
87	6.612	7	1.41E-05	6	1.21E-05	86%	Pass
88	6.684	7	1.41E-05	6	1.21E-05	86%	Pass
89	6.756	7	1.41E-05	6	1.21E-05	86%	Pass
90	6.828	7	1.41E-05	6	1.21E-05	86%	Pass
91	6.900	7	1.41E-05	6	1.21E-05	86%	Pass
92	6.972	7	1.41E-05	6	1.21E-05	86%	Pass
93	7.044	7	1.41E-05	6	1.21E-05	86%	Pass
94	7.116	6	1.21E-05	6	1.21E-05	100%	Pass
95	7.189	6	1.21E-05	6	1.21E-05	100%	Pass
96	7.261	6	1.21E-05	5	1.01E-05	83%	Pass
97	7.333	6	1.21E-05	5	1.01E-05	83%	Pass
98	7.405	6	1.21E-05	5	1.01E-05	83%	Pass
99	7.477	6	1.21E-05	5	1.01E-05	83%	Pass
100	7.549	5	1.01E-05	5	1.01E-05	100%	Pass

# Flow Duration Curve [Pre vs. Post (Mitigated)]







## **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).

<b>POC name or #</b>	<b>Channel name or #</b>	<b>POC Description</b>
POC-A	Tributary to the Sweetwater River	Outfall to the curb and gutter improvements for Sweetwater Springs Blvd.
POC-B	Tributary to the Sweetwater River	Discharge of the improved downslope channel to the existing offsite detention pond.





### **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.

[ Not used on this project ]



## **8.4 Vector Control Plan**

---

|Not used on this project|



## **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).

<b>POC name or #</b>	<b>Channel name or #</b>	<b>POC Description</b>
POC-A	Tributary to the Sweetwater River	Discharge of the improved downslope channel to the existing offsite detention pond.



### **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.

[ Not used on this project ]



## **8.4 Vector Control Plan**

---

Not used on this project



County of San Diego Stormwater Quality Management Plan (SWQMP)  
**Attachment 9: Management of Critical Coarse Sediment Yield Areas**

**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
<input type="checkbox"/> <b>9.1: Documentation of Hydromodification Management Exemption<sup>1</sup></b>	Section 1.6
<input checked="" type="checkbox"/> <b>9.2: Watershed Management Area Analysis (WMAA) Mapping<sup>1</sup></b>	Appendix H.1.1.2
<input type="checkbox"/> <b>9.3: Resource Protection Ordinance (RPO) Methods</b>	Appendix H.1.1.1
<input type="checkbox"/> <b>9.4: No Net Impact Analysis</b>	Appendix H.4

<sup>1</sup> 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/](http://www.projectcleanwater.org/download/wmaa_attc_data/)

## 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/](http://www.projectcleanwater.org/download/wmaa_attc_data/).<sup>3</sup>

- 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 PCCSYAs 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<sup>4</sup>, and (5) bypass of upstream offsite PCCSYAs.

See Map on next page.

<sup>3</sup> Applicants may refine initial mapping results using options identified in BMPDM Appendix H.1.2.

<sup>4</sup> Tributary areas must be shown to demonstrate that upstream offsite PCCSYAs do not exist. If bypassing these areas, only the bypass should be shown.

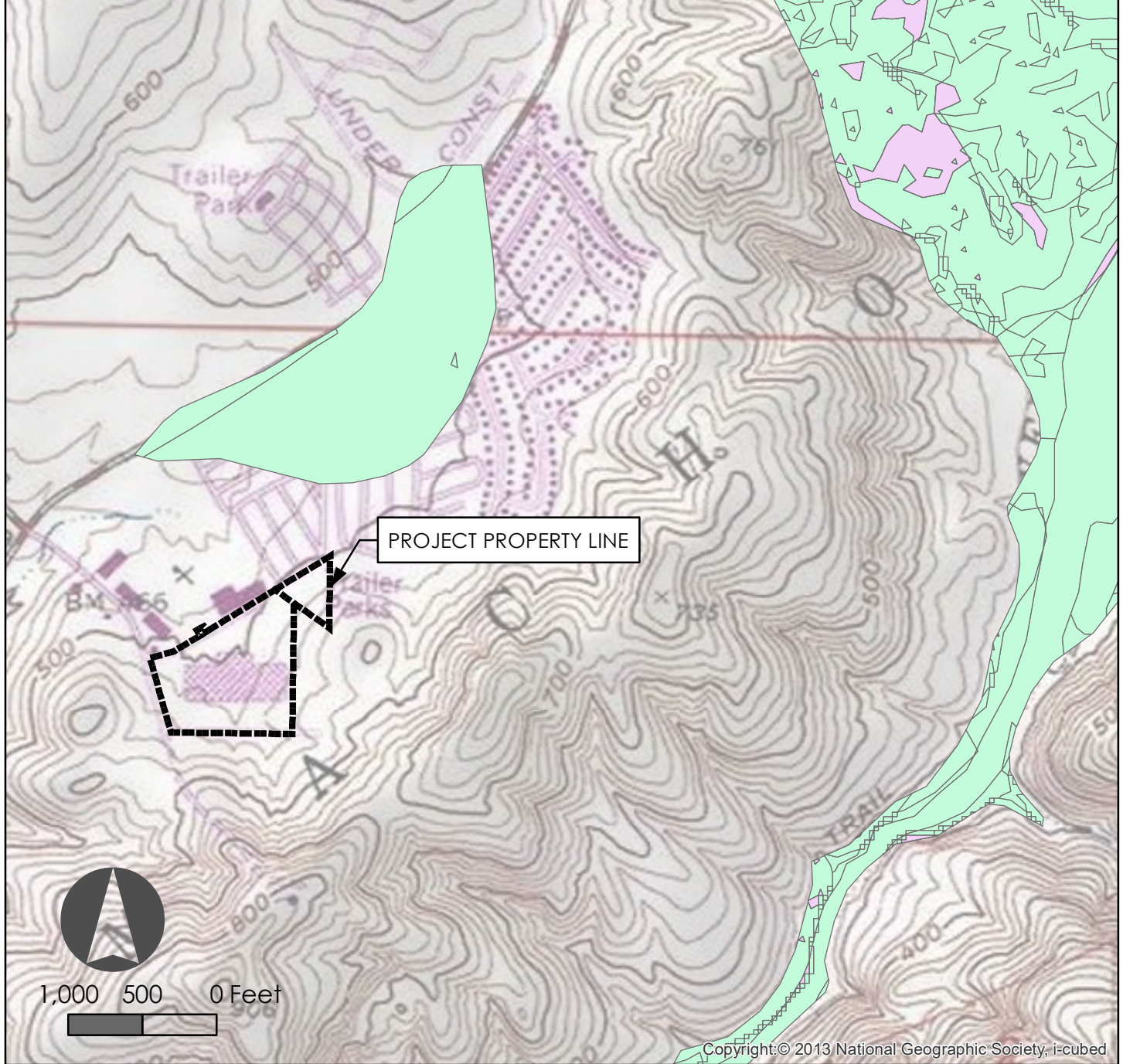
**B. Explanation** -- Provide documentation as needed to demonstrate that (1) impacts to PCCSYAs are below 5%, and (2) upstream offsite PCCYSAs are effectively bypassed. Add pages as necessary.

There are no CCYSA Areas located upstream of the project or on the project property.



# LEGEND

- PROJECT BOUNDARY
- PotentialCriticalCoarseSedimentYieldAreas
- MacroLevelPotentialCriticalAreas
- PotentialCoarseSedimentYieldAreas



NOTES:  
THERE ARE NO CCSYA AREAS LOCATED UPSTREAM  
OF THE PROJECT OR ON THE PROJECT PROPERTY.

## EXHIBIT: CRITICAL COARSE SEDIMENT YIELD AREAS



County of San Diego  
 Stormwater Quality Management Plan (SWQMP)  
**Attachment 10: BMP Installation Verification for Priority Development Projects**

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**

<b>A. Project Summary Information</b>	
<b>Project Name</b>	DIB2 – Sweetwater
<b>Record ID</b> (e.g. grading/improvement plan number, building permit)	PDS2021-LDGRMJ-30332
<b>Project Address</b>	2500 Sweetwater Springs Rd Spring Valley, CA 91978
<b>Assessor's Parcel Number(s) APN(s)</b>	505-231-3500
<b>Project Watershed</b> (Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Sweetwater HU, Middle Sweetwater HA, Jamacha HSA - 909.21
<b>B. Owner Information</b>	
<b>Name</b>	Scott Murray
<b>Address</b>	18301 Von Karman Suite 250 Irvine, CA 92612
<b>Email Address</b>	<a href="mailto:scott@greenlawpartners.com">scott@greenlawpartners.com</a>
<b>Phone Number</b>	949.331.1338

<b>COUNTY – OFFICIAL USE ONLY</b>	
<b>INTAKE ID#</b>	
<b>ACCEPTANCE ID#</b>	



County of San Diego  
 Stormwater Quality Management Plan (SWQMP)  
**Attachment 10: BMP Installation Verification for Priority Development Projects**

**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	Maintenance Agreement Recorded Doc #	Construction Plan Sheet #	Landscape Plan Sheet #	FOR DPW-WPP USE ONLY
	Quantity	Description/Type of Structural BMP	BMP ID #					
<b>A. Structural BMPs (S-BMPs)</b>								
1	1	StormTech Chambers for Hydromodification Control	1	2				
2	1	StormTech Chambers for Hydromodification Control	2	2				
3	1	BioClean Modular Wetland Biofiltration for Pollutant Control	3	2				
4	1	BioClean Modular Wetland Biofiltration for Pollutant Control	4	2				
Add rows as needed. Click into the last column in the row below this, then press TAB to add a new row.								
<b>B. Significant Site Design BMPs (SSD-BMPs)</b>								
		Choose an item.		---	---			
		Choose an item.		---	---			
		Choose an item.		---	---			
		Choose an item.		---	---			



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
**Attachment 10: BMP Installation Verification for Priority Development Projects**

		Choose an item.		---	---			
		Choose an item.		---	---			
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
    - Water Use Authorization from PDS Landscape Architect



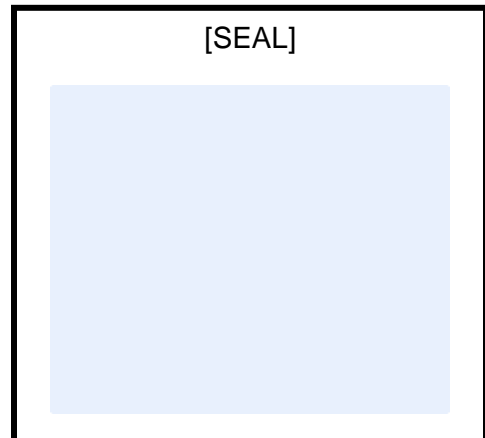
**PART 4 PREPARER’S CERTIFICATION**

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.

<b>Preparer’s Name:</b>	Luke Corsbie
<b>Email Address:</b>	<a href="mailto:lcorsbie@waremalcomb.com">lcorsbie@waremalcomb.com</a>
<b>Phone Number:</b>	949.660.9128
<b>Preparer’s Signature:</b>	
<b>Date:</b>	





**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 (Inspector Supervisor signature required)
- 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 (Category 1 BMPs)
  - Exhibit A: Project Site Vicinity; Project Site Map; and a map for each BMP and its Drainage Management Area
  - Exhibit B: BMP Maintenance Plan (see below)
- Stormwater Maintenance Agreement (Category 2 BMPs)
  - Exhibit A: Legal Description of Property
  - Exhibit B: BMP Maintenance Plan (see below)
  - Exhibit C: Project Site Vicinity Map

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

[www.sandiegocounty.gov/stormwater](http://www.sandiegocounty.gov/stormwater) under the Development Resources tab.

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

**b. Maintenance Plan Requirements**

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

- Specific **maintenance indicators and actions** for proposed structural BMP(s). These must be based on based on maintenance indicators presented in BMP Design Fact Sheets in Appendix E and enhanced to reflect actual proposed components of the structural BMP(s).
- Access** to inspect and perform maintenance on the structural BMP(s).
- Features to **facilitate inspection** (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).
- Manufacturer and part number for **proprietary parts** of structural BMP(s) when applicable.
- Maintenance thresholds** specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).
- Recommended **equipment** to perform maintenance.
- When applicable, necessary special **training or certification** requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.



**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/  
Tentative Parcel Map:      TPM  
Grading Plan / Grading Permit:      L/ PDS2021-LDGRMJ-30332  
Major Use Permit:      MUP  
Site Plan:      STP/

[3]            Provide EXACT **name of Owner** [This must be word-for-word, letter-for-letter identical to vesting title information]:

\_\_\_\_\_ AG Sweetwater Owners, 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 Delaware 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"]:

30 acre site development to support 142,800 SF Distribution Center, and adjacent triangular lot parking lot.

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.]:

<u>Grading Plan</u>	<u>PDS2021</u>	<u>3/18/21</u>
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: Tarek Shaer

Address: tarek@urbanestgroup.com

[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:

Dean Navarro

Name

Authorized Signatory

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"



## EXHIBIT A: LEGAL DESCRIPTION OF PROPERTY

The Land referred to herein below is situated in an Unincorporated Area in the County of San Diego, State of California, and is described as follows:

PARCEL ONE:

PARCEL B AS SHOWN ON CERTIFICATE OF COMPLIANCE NO. B/C03-0222 AS EVIDENCED BY DOCUMENT RECORDED MARCH 12, 2004 AS INSTRUMENT NO. 04-204897 OF OFFICIAL RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PORTION OF SWEETWATER SPRINGS, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 576, FILED IN THE OFFICE OF COUNTY RECORDER OF SAN DIEGO COUNTY JANUARY 11, 1879, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF LOT 33 OF SAID SWEETWATER SPRINGS AS SHOWN ON RECORD OF SURVEY MAP NO. 5255, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY NOVEMBER 5, 1959; BEING ALSO AN ANGLE POINT IN THE BOUNDARY OF LAND DESCRIBED IN DEED TO FRED J. HANSEN, TRUSTEE, RECORDED FEBRUARY 25, 1970 AS INSTRUMENT NO. 34328; THENCE ALONG THE BOUNDARY OF SAID LAND NORTH 55°04'10" WEST (RECORD EQUALS NORTH 59°09'50" WEST) 291.23 FEET TO THE TRUE POINT OF BEGINNING OF THE PROPERTY HEREIN DESCRIBED; THENCE CONTINUING NORTH 55°04'10" WEST 155.60 FEET TO AN ANGLE POINT THEREIN; THENCE SOUTH 58°19'10" WEST (RECORD EQUALS SOUTH 58°13'30" WEST) 797.65 FEET TO AN ANGLE POINT THEREIN; THENCE LEAVING SAID BOUNDARY SOUTH 73°58'30" WEST 168.84 FEET TO A POINT ON THE CENTER LINE OF THAT CERTAIN 20.00 FOOT EASEMENT AS DESCRIBED IN DEED TO LA PRESA COUNTY WATER DISTRICT, RECORDED MAY 5, 1960 AS FILE NO. 93684, DISTANT THEREON SOUTH 16°01'30" EAST 155.25 FEET FROM A POINT OF CURVATURE IN SAID CENTER LINE; THENCE ALONG SAID CENTER LINE SOUTH 16°01'30" EAST 520.06 FEET; THENCE SOUTH 89°34'21" EAST 818.52 FEET; THENCE SOUTH 0°25'39" EAST 882.41 FEET TO THE TRUE POINT OF BEGINNING.

ALSO KNOWN AS:

PARCEL 1 OF PARCEL MAP NO. 3814, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, MAY 22, 1975 AS INSTRUMENT NO. 75-125885 OF OFFICIAL RECORDS.

## EXHIBIT A: LEGAL DESCRIPTION OF PROPERTY

TOGETHER WITH THAT PORTION OF LOTS 35 AND 36 OF SWEETWATER SPRINGS, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF 576, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JANUARY 11, 1889, DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE CENTER LINE OF SAN DIEGO COUNTY ROAD SURVEY NO. 629 WITH THE CENTERLINE OF SAN DIEGO COUNTY ROAD SURVEY NO. 1353 AS SAID INTERSECTION IS SHOWN ON RECORD OF SURVEY MAP NO. 5255 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY; THENCE SOUTH 68°09'40" EAST 156.38 FEET; THENCE SOUTH 48°18'50" EAST 693.08 FEET; THENCE SOUTH 44°47'20" EAST 138.55 FEET TO THE NORTHWESTERLY CORNER OF LAND DESCRIBED IN DEED TO H.L.M. INDUSTRIES, RECORDED OCTOBER 15, 1965 AS INSTRUMENT NO. 187859; THENCE ALONG THE NORTHWESTERLY LINE OF SAID LAND NORTH 45°12'40" EAST 134.20 FEET TO THE NORTHEASTERLY CORNER OF SAID LAND AND BEING HEREIN DESIGNATED AS POINT "A"; THENCE CONTINUING NORTH 45°12'40" EAST 122.68 FEET TO HEREIN DESIGNATED POINT "C", SAID POINT BEING ALSO AN ANGLE POINT IN THE BOUNDARY LAND DESCRIBED IN DEED TO CHAPMAN BROTHERS, RECORDED MARCH 18, 1971 AS INSTRUMENT NO. 52253; THENCE ALONG THE BOUNDARY OF CHAPMAN'S LAND AS FOLLOWS: SOUTH 45°12'40" WEST 128.68 FEET TO SAID POINT "A"; THENCE SOUTH 44°47'20" EAST 340.31 FEET; THENCE NORTH 58°19'10" EAST 132.12 FEET, MORE OR LESS, TO A LINE THAT BEARS SOUTH 44°47'20" EAST FROM SAID POINT "C" BEING THE TRUE POINT OF BEGINNING; THENCE NORTH 44°47'20" WEST 41.17 FEET; THENCE SOUTH 59°30'23" WEST 54.31 FEET; THENCE SOUTH 30°29'37" EAST 41.25 FEET TO A LINE BEARING SOUTH 58°19'10" WEST FROM THE TRUE POINT OF BEGINNING; THENCE NORTH 58°19'10" EAST 64.50 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL TWO:

THAT PORTION OF LOT 32 IN SWEETWATER SPRINGS, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 576, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JANUARY 11, 1889, DESCRIBED AS FOLLOWS:

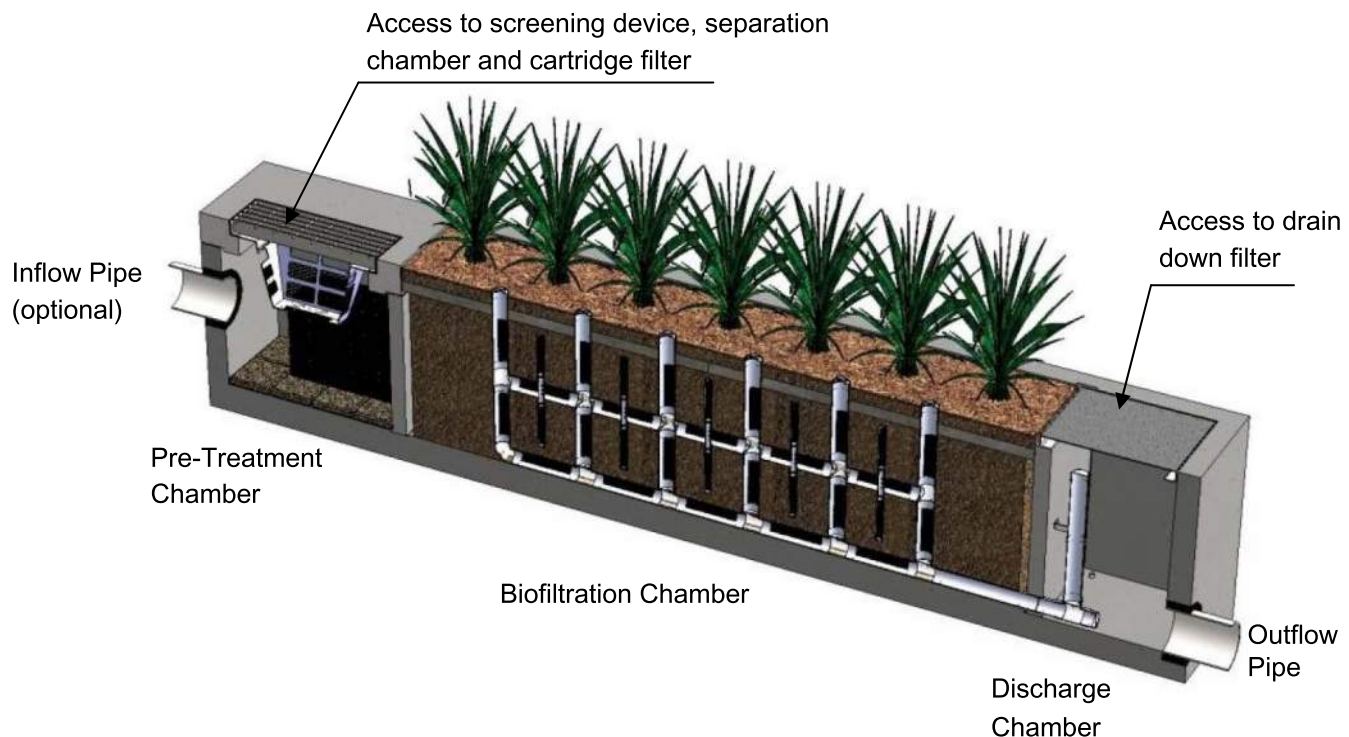
## **EXHIBIT B: BMP MAINTENANCE PLAN**

# Maintenance Guidelines for Modular Wetland System - Linear

## Maintenance Summary

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

## System Diagram





# Maintenance Procedures

## Screening Device

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

## Separation Chamber

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

## Cartridge Filters

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

## Drain Down Filter

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



## Maintenance Notes

1. Following maintenance and/or inspection, it is recommended the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.
2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.
3. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
4. Entry into chambers may require confined space training based on state and local regulations.
5. No fertilizer shall be used in the Biofiltration Chamber.
6. Irrigation should be provided as recommended by manufacturer and/or landscape architect. Amount of irrigation required is dependent on plant species. Some plants may require irrigation.

## Maintenance Procedure Illustration

### Screening Device

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



### Separation Chamber

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



### **Cartridge Filters**

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



### **Drain Down Filter**

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



### Trim Vegetation

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





## Inspection Form



**Modular Wetland System, Inc.**

**P. 760.433-7640**

**F. 760-433-3176**

**E. [Info@modularwetlands.com](mailto:Info@modularwetlands.com)**

**[www.modularwetlands.com](http://www.modularwetlands.com)**



# Inspection Report Modular Wetlands System



Project Name \_\_\_\_\_

Project Address \_\_\_\_\_ (city) (Zip Code)

Owner / Management Company \_\_\_\_\_

Contact \_\_\_\_\_

Phone ( ) -

Inspector Name \_\_\_\_\_

Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Time \_\_\_\_\_ AM / PM

Type of Inspection  Routine  Follow Up  Complaint

Storm

Storm Event in Last 72-hours?  No  Yes

Weather Condition \_\_\_\_\_

Additional Notes \_\_\_\_\_

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

## Inspection Checklist

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

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

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

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

Plant Information	
Damage to Plants	
Plant Replacement	
Plant Trimming	

Additional Notes: \_\_\_\_\_

## Maintenance Report



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**P. 760.433-7640**

**F. 760-433-3176**

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**[www.modularwetlands.com](http://www.modularwetlands.com)**





# Cleaning and Maintenance Report Modular Wetlands System



Project Name \_\_\_\_\_

Project Address \_\_\_\_\_  
(city) (Zip Code)

Owner / Management Company \_\_\_\_\_

Contact \_\_\_\_\_ Phone (      )      -

Inspector Name \_\_\_\_\_ Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Time \_\_\_\_\_ AM / PM

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

Weather Condition \_\_\_\_\_ Additional Notes \_\_\_\_\_

For Office Use Only

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(Reviewed By) \_\_\_\_\_

---

(Date) \_\_\_\_\_  
 Office personnel to complete section to the left.

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

Comments:

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# UrbanPond™

A Stormwater Storage Solution

## INSPECTION & MAINTENANCE MANUAL

## URBAN POND INSPECTION & MAINTENANCE

Inspection and maintenance of the Urban Pond underground detention, retention, or infiltration system is vital for the performance and life cycle of the stormwater management system. All local, state, and federal permits and regulations must be followed for system compliance. Manway access locations are provided on each system for ease of ingress and egress for routine inspection and maintenance activities. Stormwater regulations require that all BMPs be inspected and maintained to ensure they are operating as designed and providing protection to receiving water bodies. It is recommended that inspections be performed multiple times during the first year to assess the site specific conditions. Inspection after the first significant rainfall event and at quarterly intervals is typical. This is recommended because pollutant loading and pollutant characteristics can vary greatly from site to site. Variables such as nearby soil erosion or construction sites, winter sanding on roads, amount of daily traffic and land use can increase pollutant loading on the system. The first year of inspections can be used to set inspection and maintenance intervals for subsequent years to ensure appropriate maintenance is provided. Without appropriate maintenance a BMP can exceed its storage capacity, become blocked, or damaged, which can negatively affect its continued performance.

### *Inspection Equipment*

Following is a list of equipment to allow for simple and effective inspection of the underground detention, retention, or infiltration system:

- Bio Clean Environmental Inspection and Maintenance Report Form
- Flashlight
- Manhole hook or appropriate tools to access hatches and covers
- Appropriate traffic control signage and procedures
- Measuring pole and/or tape measure
- Protective clothing and eye protection
- Note: Entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections of the system.



### *Inspection Steps*

The key to any successful stormwater BMP maintenance program is routine inspections. The inspection steps required on the Urban Pond underground detention, retention, or infiltration system are quick and easy. As mentioned above, the first year should be seen as the maintenance interval establishment phase. During the first year more frequent inspections should occur in order

to gather loading data and maintenance requirements for that specific site. This information can be used to establish a base for long term inspection and maintenance interval requirements.

The Urban Pond underground detention, retention, or infiltration system can be inspected through visual observation without entry into the system. All necessary pre-inspection steps must be carried out before inspection occurs, especially traffic control and other safety measures to protect the inspector and nearby pedestrians from any dangers associated with an open access hatch or manhole. Once these access covers have been safely opened the inspection process can proceed:

- Prepare the inspection form by writing in the necessary information including project name, location, date & time, unit number and other information (see inspection form).
- Observe the upstream drainage area and look for sources of pollution, sediment, trash and debris.
- Observe the inside of the system through the access manholes. If minimal light is available and vision into the unit is impaired, utilize a flashlight to see inside the system and all of its modules.
- Look for any out of the ordinary obstructions in the inflow and outflow pipes. Check pipes for movement or leakage. Write down any observations on the inspection form.
- Observe any movement of modules.
- Observe concrete for cracks and signs of deterioration.
- In detention and retention systems inspect for any signs of leakage.
- In infiltration systems inspect for any signs of blockage or reasons that the soils are not infiltrating.
- Through observation and/or digital photographs, estimate the amount of floatable debris accumulated in the system. Record this information on the inspection form. Next, utilizing a tape measure or measuring stick, estimate the amount of sediment accumulated in the system. Sediment depth may vary throughout the system, depending on the flow path. Record this depth on the inspection form.
- Finalize inspection report for analysis by the maintenance manager to determine if maintenance is required.

### ***Maintenance Indicators***

Based upon observations made during inspection, maintenance of the system may be required based on the following indicators:

- Damaged inlet and outlet pipes.
- Obstructions in the system or its inlet or outlet.
- Excessive accumulation of floatables.
- Excessive accumulation of sediment of more than 6" in depth.
- Damaged joint sealant.

### *Maintenance Equipment*

While maintenance can be done fully by hand it is recommended that a vacuum truck be utilized to minimize time requirements required to maintain the Urban Pond underground detention, retention, or infiltration system:

- Bio Clean Environmental Inspection and Maintenance Report Form
- Flashlight
- Manhole hook or appropriate tools to access hatches and covers
- Appropriate traffic control signage and procedures
- Measuring pole and/or tape measure
- Protective clothing and eye protection
- Vacuum truck
- Trash can
- Pressure washer
- Note: Entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections of the system. Entry into the system will be required if maintenance is required.

### *Maintenance Procedures*

It is recommended that maintenance occurs at least three days after the most recent rain event to allow for drain down of the system and any upstream detention systems designed to drain down over an extended period of time. Maintaining the system while flows are still entering it will increase the time and complexity required for maintenance. Once all safety measures have been set up cleaning of the system can proceed as follows:

- Using an extension on a boom on the vacuum truck, position the hose over the opened manway and lower into the system. Remove all floating debris, standing water (as needed) and sediment from the system. A power washer can be used to assist if sediments have become hardened and stuck to the walls and columns. Repeat the same procedure at each manway until the system has been fully maintained. Be sure not to pressure wash the infiltration area as it may scour.

If maintenance requires entry into the vault:

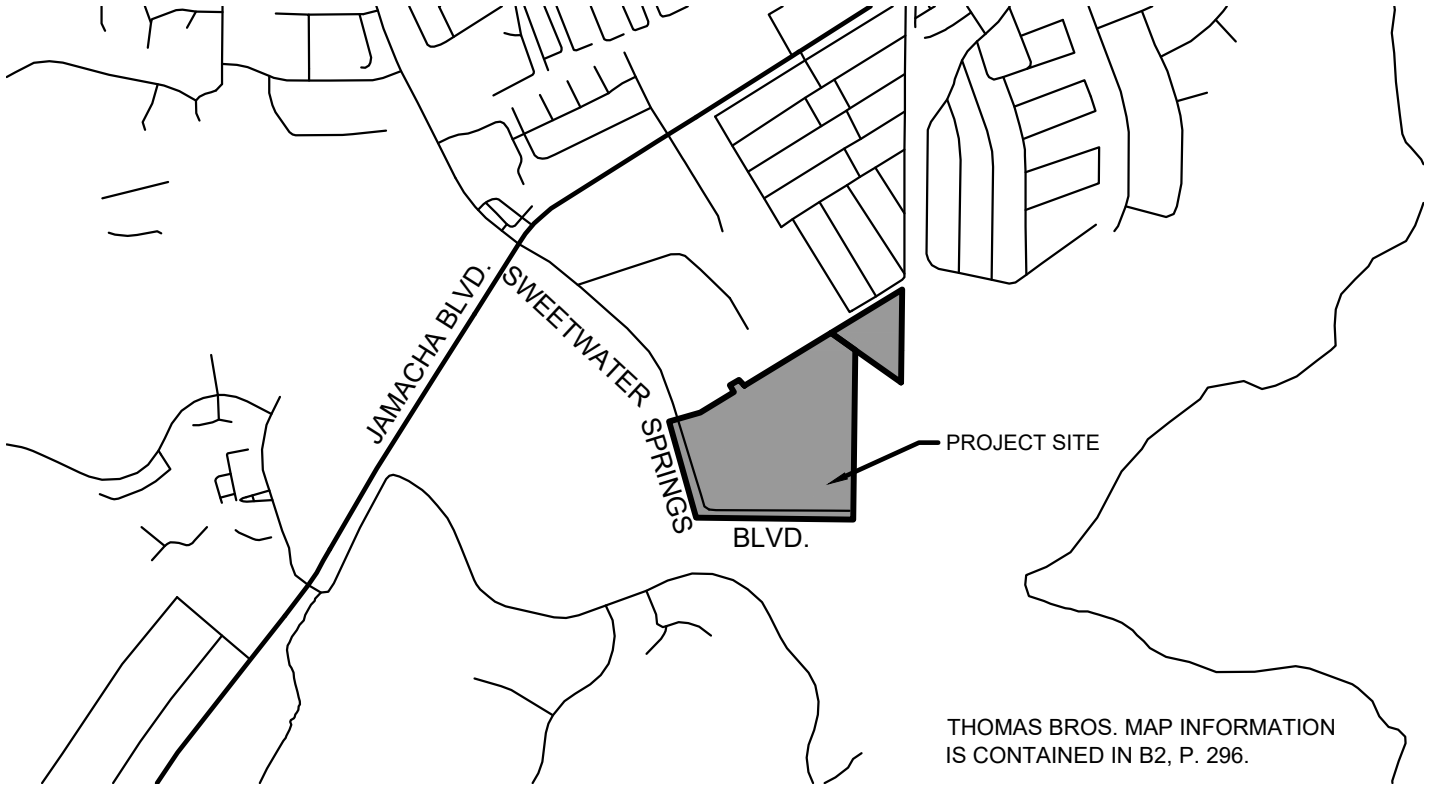
- Following rules for confined space entry use a gas meter to detect the presence of any hazardous gases. If hazardous gases are present do not enter the vault. Follow appropriate confined space procedures, such as utilizing venting system, to address the hazard. Once it is determined to be safe, enter utilizing appropriate entry equipment such as a ladder and tripod with harness.

- The last step is to close up and replace all manhole covers and remove all traffic control.
- All removed debris and pollutants shall be disposed of following local and state requirements.

For Maintenance Services please contact Bio Clean at 760-433-7640, or email [info@biocleanenvironmental.com](mailto:info@biocleanenvironmental.com).

## EXHIBIT C: PROJECT SITE VICINITY MAP

# VICINITY MAP



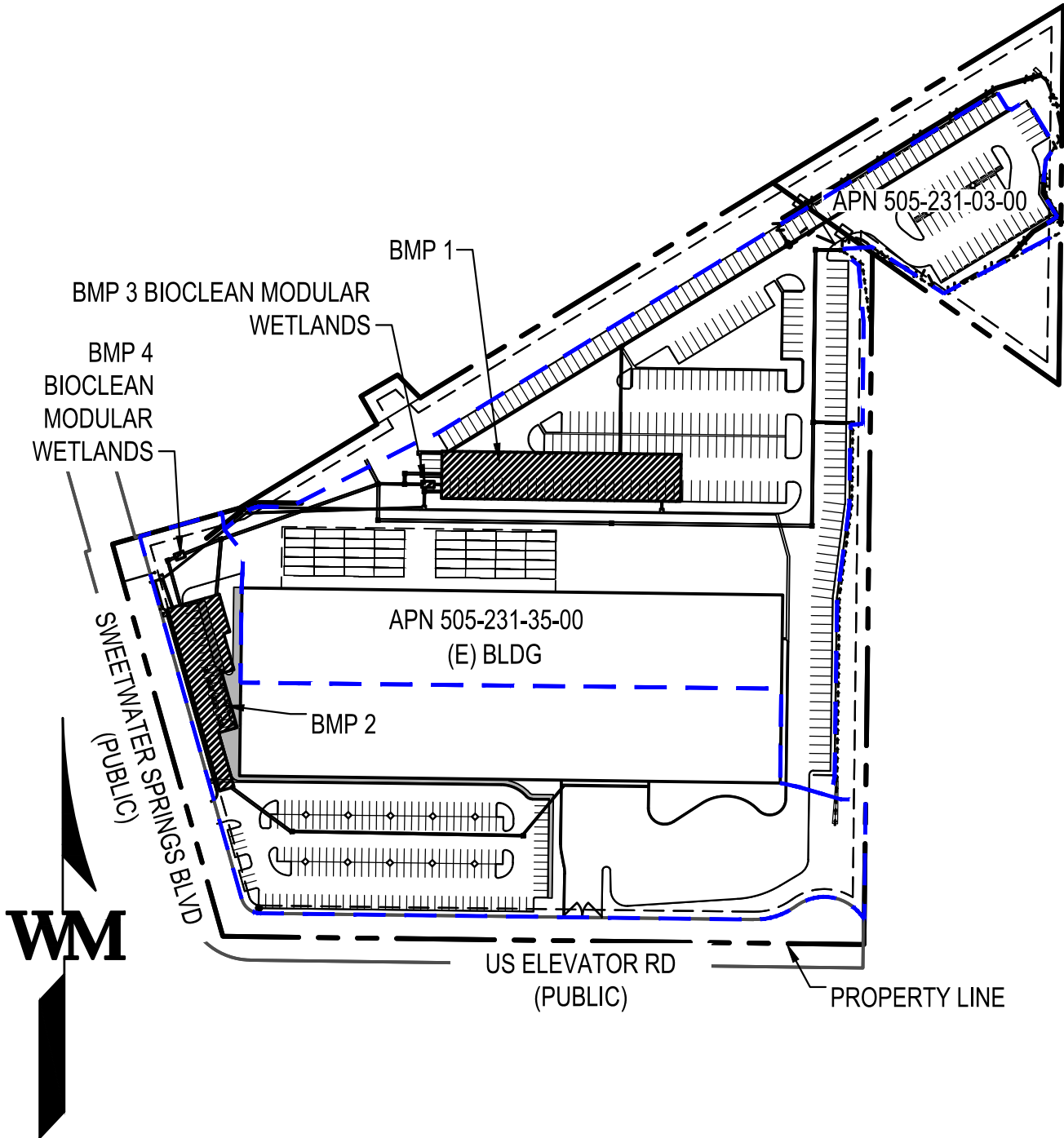
THOMAS BROS. MAP INFORMATION  
IS CONTAINED IN B2, P. 296.



3911 sorrento valley blvd suite 120 san diego, ca 92121 p 858.638.7277 waremalcomb.com <b>CIVIL ENGINEERING &amp; SURVEYING</b>		PROJECT NAME: DIB2 - SWEETWATER			SHEET  <b>1</b>
		JOB NO.: DAL20-5012		DATE : 01/15/21	
		DRAWN: SB	PA/PM: LC	SCALE: 1"=1000'	

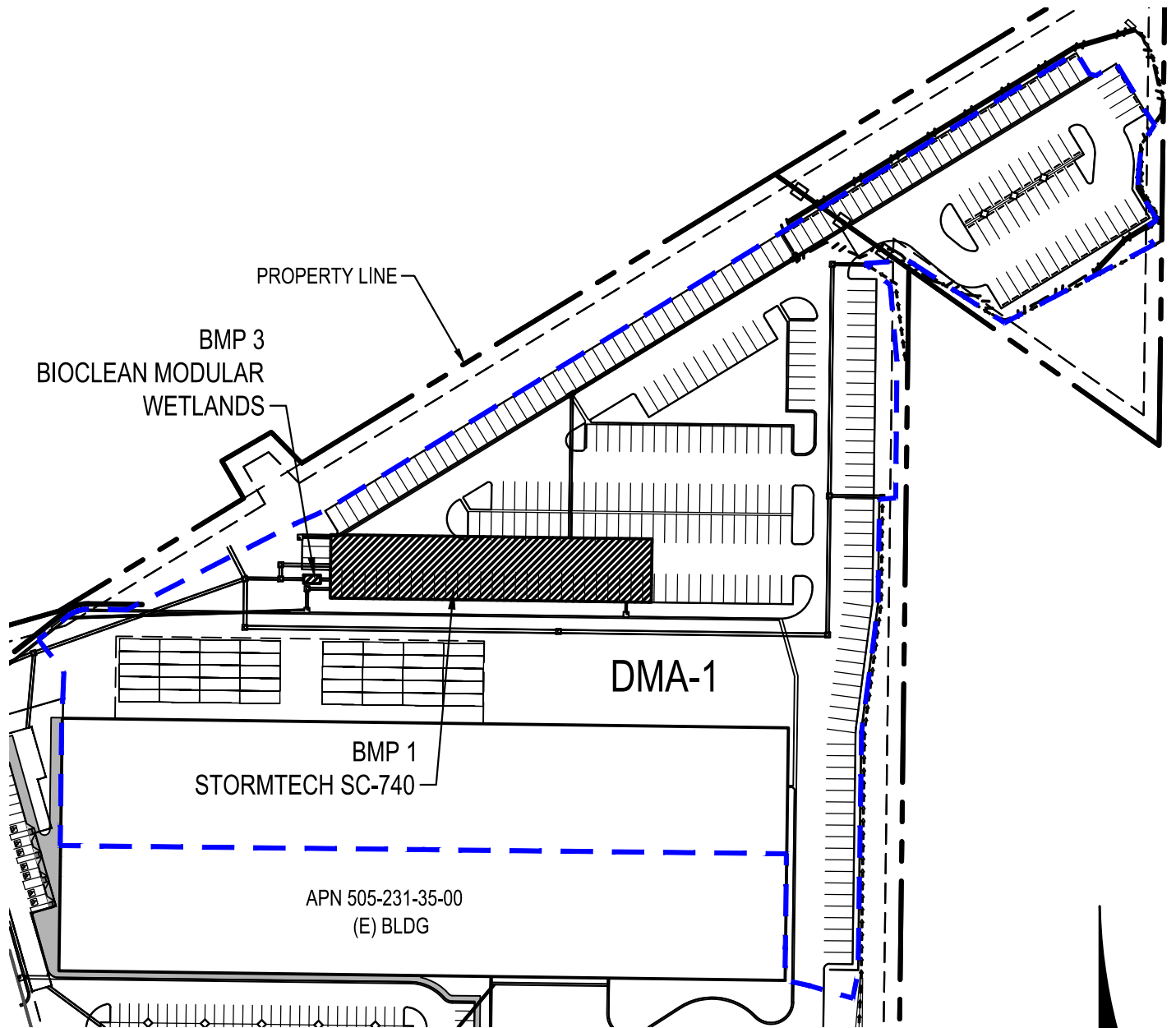


# SITE MAP



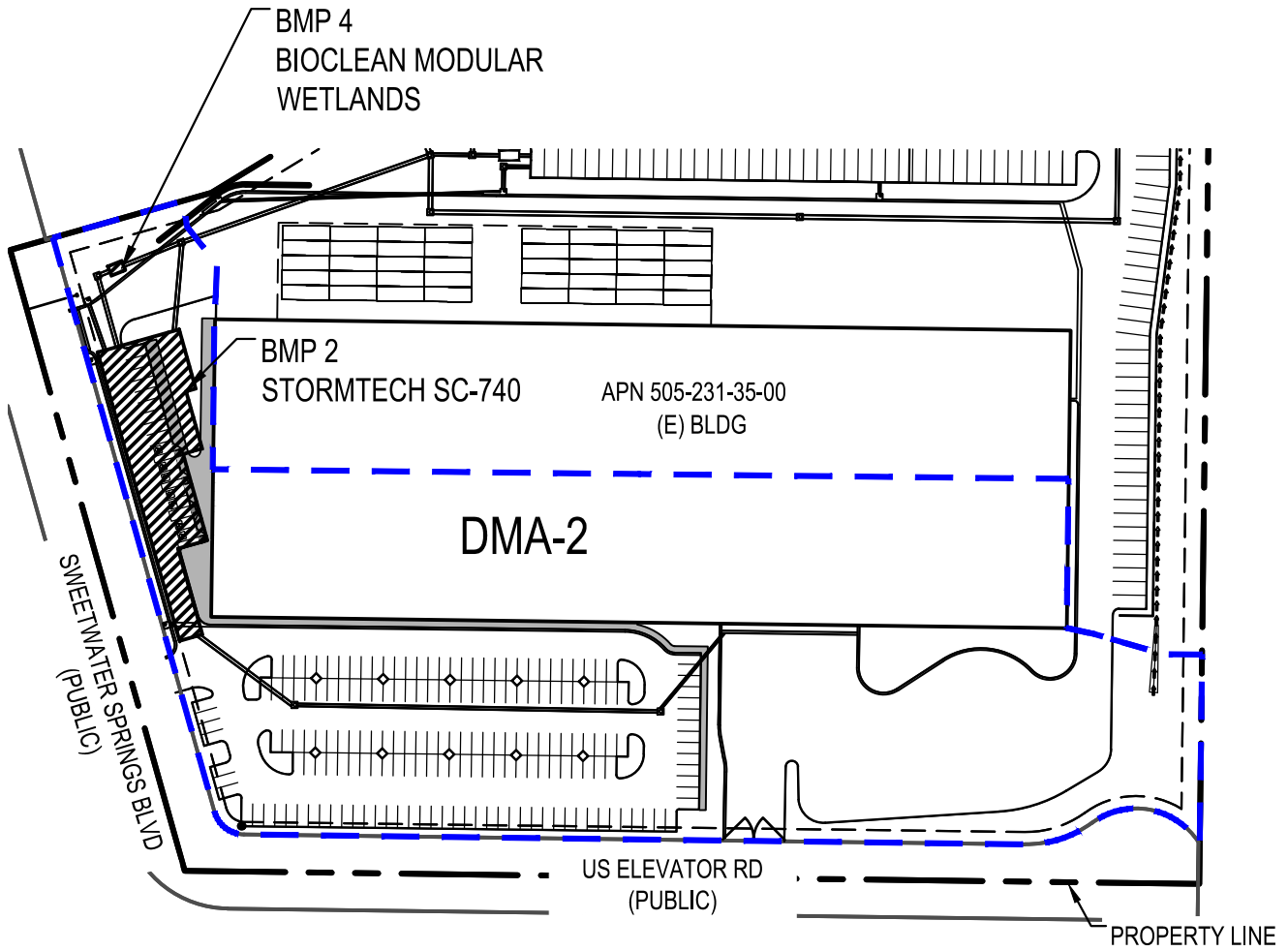
3911 sorrento valley blvd suite 120 san diego, ca 92121 p 858.638.7277 waremalcomb.com <b>WM</b> <b>WARE MALCOMB</b> CIVIL ENGINEERING & SURVEYING	PROJECT NAME: DIB2 - SWEETWATER		SHEET  <span style="font-size: 2em;">2</span>
	JOB NO.: DAL20-5012	DATE : 07/20/2021	
	DRAWN: SB	PA/PM: LC	


# MAPBOOK 1



3911 sorrento valley blvd suite 120 san diego, ca 92121 p 858.638.7277 waremalcomb.com <b>WARE MALCOMB</b> CIVIL ENGINEERING & SURVEYING	PROJECT NAME: DIB2 - SWEETWATER		SHEET  <b>3</b>
	JOB NO.: DAL20-5012	DATE : 01/15/21	
	DRAWN: SB	PA/PM: LC	

# MAPBOOK 2



3911 sorrento valley blvd suite 120 san diego, ca 92121 p 858.638.7277 waremalcomb.com <b>CIVIL ENGINEERING &amp; SURVEYING</b>	 <b>WARE MALCOMB</b>	PROJECT NAME: DIB2 - SWEETWATER			SHEET  <h1>4</h1>
		JOB NO.: DAL20-5012		DATE : 01/15/21	
		DRAWN: SB	PA/PM: LC	SCALE: 1"=150'	