
APPENDIX I-2.
PRELIMINARY STORMWATER QUALITY
MANAGEMENT PLAN

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**CITY OF ENCINITAS
STORMWATER INTAKE FORM AND PRIORITY DEVELOPMENT PROJECT
PRELIMINARY STORMWATER QUALITY MANAGEMENT PLAN (SWQMP)**

FOR:
PIRAEUS POINT
MULTI-005158-2022

PIRAEUS STREET
ENCINITAS, CA 92024
APN 254-144-01

PREPARED BY:
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DATE OF SWQMP:
January 19, 2022
Revised: April 6, 2022
Revised: March 15, 2023

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TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
PREPARER'S CERTIFICATION	3
PROJECT OWNER'S CERTIFICATION	4
SUBMITTAL RECORD	5
PROJECT IDENTIFICATION	6
DETERMINATION OF PROJECT STATUS AND REQUIREMENTS	6
SITE INFORMATION CHECKLIST.....	9
SOURCE CONTROL BMP CHECKLIST.....	17
SITE DESIGN BMP CHECKLIST	18
PDP STRUCTURAL BMPS	19
STRUCTURAL BMP SUMMARY INFORMATION	21
ATTACHMENT 1 - BACKUP FOR PDP POLLUTANT CONTROL BMPS.....	22
ATTACHMENT 2 - BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES	24
ATTACHMENT 3 - STRUCTURAL BMP MAINTENANCE INFORMATION	26
ATTACHMENT 4 - COPY OF PLAN SHEETS SHOWING PERMANENT STORM WATER BMPS.....	28
ATTACHMENT 5 - COPY OF PRELIMINARY DRAINAGE STUDY	29
ATTACHMENT 6 - COPY OF GEOTECHNICAL INVESTIGATION.....	30

PREPARER'S CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of 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 Priority Development Project (PDP) requirements of the City of Encinitas BMP Design Manual, which is a design manual for compliance with local City of Encinitas and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2015-0100) requirements for storm water management.

I have read and understand that the City Engineer has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the 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 Storm Water Quality Management Plan (SWQMP) by the City Engineer is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.



Engineer of Work's Signature, PE Number

Engineer's Seal

Tyler G. Lawson

Print Name

Pasco Laret Suiter & Associates

Company

3/15/23

Date



PROJECT OWNER'S CERTIFICATION

This PDP SWQMP has been prepared for PIREAUS INVESTOR, LLC by PASCO LARET SUITER & ASSOCIATES. The PDP SWQMP is intended to comply with the PDP requirements of the City of Encinitas BMP Design Manual, which is a design manual for compliance with local City of Encinitas and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2015-0100) requirements for storm water management.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan. Once the undersigned transfers its interests in the property, its successor-in-interest shall bear the aforementioned responsibility to implement the best management practices (BMPs) described within this plan, including ensuring on-going operation and maintenance of structural BMPs. A signed copy of this document shall be available on the subject property into perpetuity.

Project Owner's Signature

Print Name

Lennar Homes of California, LLC
Company

04/06/2022
Date

SUBMITTAL RECORD

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

Submittal Number	Date	Project Status	Summary of Changes
1	01/19/2022	<input checked="" type="checkbox"/> Preliminary Design/Planning/ CEQA <input type="checkbox"/> Final Design	Initial Submittal
2	04/13/2022	<input checked="" type="checkbox"/> Preliminary Design / Planning/ CEQA <input type="checkbox"/> Final Design	2 nd Submittal
3	03/15/2023	<input checked="" type="checkbox"/> Preliminary Design / Planning/ CEQA <input type="checkbox"/> Final Design	3 rd Submittal
4		<input type="checkbox"/> Preliminary Design / Planning/ CEQA <input type="checkbox"/> Final Design	4 th Submittal

PROJECT IDENTIFICATION

Project/Applicant Name: Piraeus Point/Lennar Homes of California, LLC	
Permit/Application Number: MULTI-005158-2022; CDP-005161-2022, DR-005160-2022; SUB-005159-2022	Date: 1/19/2022
Site Address: Piraeus Street, Encinitas, CA 92024	APN: 254-144-01
Scope of work/project description: The project proposes the construction of 149 condominiums and amenity space, paved private driveways and alleyways, onsite grading and supporting infrastructure such as sewer and water. Also proposed as part of this development are right of way improvements along Piraeus Street and Plato Place.	

DETERMINATION OF PROJECT STATUS AND REQUIREMENTS

This form will identify permanent, post construction BMP requirements. Refer to City of Encinitas Stormwater BMP Design Manual for guidance.			
Step 1: Is the project a "development project"? Development projects are defined as "construction, rehabilitation, redevelopment, or reconstruction of any public or private projects". See Section 1.3 and Table 1-2 of the manual for guidance. For example, interior remodels, roof replacements, and electrical and plumbing work are not development projects.	<input checked="" type="checkbox"/> Yes	Go to Step 2.	
	<input type="checkbox"/> No	Stop. Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.	
If "No", provide discussion / justification explaining why the project is <u>not</u> a "development project": 			
Step 2: Complete questions below for Project Type Determination. The project is (select one): <input checked="" type="checkbox"/> New Development <input type="checkbox"/> Redevelopment			
The total proposed, newly created and/or replaced impervious area is: <u>199,195 ft²</u>			
Is the project in any of the following categories, (a) through (f) below?			
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(a)	New development projects or redevelopment projects that create and/or replaced 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of

			10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects.
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(d)	New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharge directly to an Environmentally Sensitive Area (ESA). "Discharge directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). <u>Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and SDRWQCB; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and SDRWQCB; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees. See manual Section 1.4.2 for additional guidance.</u>
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(e)	New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets. This category includes retail gasoline outlets that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic of 100 or more vehicles per day.
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(f)	New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction. <i>Note: See manual Section 1.4.2 for additional guidance.</i>
Does the project meet the definition of one or more of the PDP categories (a) through (f) listed above? <input checked="" type="checkbox"/> Yes – The project is a <u>Priority Development Project</u>, the applicant shall provide PDP Post Construction BMPs and <i>continue to Step 3</i>. <input type="checkbox"/> No – The project is a <u>Standard or Basic Project</u>. <i>Stop here and complete the "City of Encinitas Stormwater Intake Form for All Developments and Standard Projects SWQMP"</i>.			

<p>The following is for <i>redevelopment PDPs</i> only:</p> <p>The area of existing (pre-project) impervious area at the project site is: <u>n/a</u>(A)</p> <p>The total proposed newly created or replaced impervious area is: <u>n/a</u> (B)</p> <p>Percent impervious surface created or replaced (B/A)*100: <u>n/a</u>%</p> <p>The percent impervious surface created or replaced is (select one based on the above calculation):</p> <p><input type="checkbox"/> Less than or equal to fifty percent (50%) – only new and/or replaced impervious areas are considered PDP subject to treatment and HMP criteria</p> <p>OR</p> <p><input checked="" type="checkbox"/> Greater than fifty percent (50%) – the entire site is a PDP; treatment and HMP criteria apply to entire site regardless of whether it is replaced</p>		
<p>Step 3 (PDPs only): Do hydromodification control requirements apply? See Section 1.6 of the BMP Design Manual for guidance.</p>	<input checked="" type="checkbox"/> Yes	<p>PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to Step 4.</p>
	<input type="checkbox"/> No	<p>PDP structural BMPs required for pollutant control (Chapter 5) only. Provide brief discussion of exemption to hydromodification control below. Go to "Site Information Checklist"</p>
<p>Discussion / justification if hydromodification control requirements do <u>not</u> apply:</p>		
<p>Step 4 (PDPs subject to treatment and hydromodification controls): Does protection of critical coarse sediment yield areas apply based on review of City of Encinitas Potential Critical Coarse Sediment Yield Area Map? See Section 6.2 of the BMP Design Manual for guidance.</p>	<input type="checkbox"/> Yes	<p>Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). Go to "Site Information Checklist"</p>
	<input checked="" type="checkbox"/> No	<p>Management measures not required for protection of critical coarse sediment yield areas. Provide brief discussion below. Go to "Site Information Checklist"</p>
<p>Discussion / justification if management measures <u>not</u> required for protection of critical coarse sediment yield areas:</p> <p>The project site does not fall in a potential Critical Coarse Sediment Yield Area. Refer to Attachment 2b.</p>		

SITE INFORMATION CHECKLIST

Project's Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Carlsbad HU, San Marcos HA, Batiquitos HSA 904.51
Parcel Area (Total area of Assessor's Parcel(s) associated with the project)	<u>6.876</u> Acres (<u>299,508</u> Square Feet)
Area to be Disturbed by the Project (Project Area)	<u>6.25</u> Acres (<u>272,590</u> Square Feet)
Project Proposed Impervious Area (Subset of Project Area)	<u>4.63</u> Acres (<u>202,011</u> Square Feet)
Project Proposed Pervious Area (Subset of Project Area)	<u>1.62</u> Acres (<u>70,579</u> Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Parcel Area.	
Description of Existing Site Condition	
<p>Current status of the site (select all that apply):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Existing development <input checked="" type="checkbox"/> Previously graded but not built out <input type="checkbox"/> Demolition completed without new construction <input type="checkbox"/> Agricultural or other non-impervious use <input type="checkbox"/> Vacant, undeveloped/natural <p>Description / Additional Information: The site is comprised of vegetated and non-vegetated open space area. The site was previously graded to address slope stability issues.</p>	
<p>Existing Land Cover includes (select all that apply):</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Vegetative Cover <input checked="" type="checkbox"/> Non-Vegetated Pervious Areas <input type="checkbox"/> Impervious Areas <p>Description / Additional Information: Currently, the existing site is undeveloped, completely pervious but not in its natural state, remedial grading has occurred throughout the project site.</p>	

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

- NRCS Type A
- NRCS Type B
- NRCS Type C
- NRCS Type D

Approximate Depth to Groundwater (GW):

- GW Depth < 5 feet
- 5 feet < GW Depth < 10 feet
- 10 feet < GW Depth < 20 feet
- GW Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

- Watercourses
- Seeps
- Springs
- Wetlands
- None

Description / Additional Information:

Description of Existing Site Drainage Patterns

How is storm water runoff conveyed from the site? At a minimum, this description should answer:

- 1) Is existing drainage conveyance natural or urban?
- 2) Is runoff from offsite conveyed through the site? If yes, quantify all offsite drainage areas, design flows, and locations where offsite flows enter the project site, and summarize how such flows are conveyed through the site.
- 3) Provide details regarding existing project site drainage conveyance network, including any existing storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels. And
- 4) Identify all discharge locations from the existing project site along with a summary of conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.

Describe existing site drainage patterns:

In its current state the about 70% of the site drains from east to west via surface/sheet flow before entering a storm drain infrastructure adjacent to Piraeus Street. The remainder of the site drains from east to southwest via surface/sheet flow before entering a storm drain structure at the corner of Piraeus Street and Plato Place. Runoff from the site then continues west under interstate 5 through a series of storm drain pipes until it reaches a concrete drainage ditch on the west side of interstate 5 where runoff confluences. Runoff continues north until it eventually discharges into the Batiquitos Lagoon.

Description of Proposed Site Development

Project Description / Proposed Land Use and/or Activities:

The project proposes the construction of 149 condominiums and amenity space, paved private driveways and alleyways, onsite grading and supporting infrastructure such as sewer and water. Also proposed as a part of this development are right of way improvements along Piraeus Street and Plato Place.

As shown on the Post-Development Hydrology Node Map included in the drainage study, Drainage Basin A comprises a majority of the site. Runoff from Drainage Basin A surface flows to the south to the proposed storm drain system which conveys flow to the proposed biofiltration basin located along Plato Place. After being treated and stored, runoff discharges into Piraeus Street via curb outlet and travels north. Runoff eventually makes its way under Interstate 5 via pipe flow and travels north until it reaches Batiquitos Lagoon and ultimately the Pacific Ocean.

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

Impervious features include 149 condominiums, paved private driveways and alleyways as well as pathways and hardscape between building use for pedestrian circulation throughout the site are also proposed as a part of this development.

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

Pervious features include approximately 51,016 SF of landscaped area along with approximately 12,197 SF of fill slope.

Does the project include grading and changes to site topography?

Yes

No

Description / Additional Information:

Mass grading associated with the private driveways, and pads are proposed over a majority of the site.

Description of Proposed Site Drainage Patterns

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

Yes

No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre- and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Describe proposed site drainage patterns:

The project proposes the construction of a private storm drain system consisting of HDPE pipe, cleanouts, inlets, brooks boxes, area drains, perf pipe, and concrete brow ditches for the collection and conveyance of onsite drainage. In addition, an on-site biofiltration basin has been sized to handle the treatment and flow control requirements as well as attenuate the 100-year, 6-hour storm event.

In the proposed condition, there is one (1) discharge location identified as POC-B. The table below summarizes the pre and post-project peak flow rates in the mitigated and unmitigated conditions. Refer to the DMA Map included in the Appendix for information on the DMA areas.

Summary of 100-yr Peak Discharge Rates

	Pre-Development	Post-Dev Unmitigated	Post-Dev Mitigated
	Q100 (cfs)	Q100 (cfs)	Q100 (cfs)
POC-A	4.90	--	--
POC-B	10.56	33.91	5.58

Refer to the drainage report prepared for this site for detailed calculations.

Identification and Narrative of Receiving Water and Pollutants of Concern

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):

A majority of the runoff generated by the proposed development will be collected in the private on-site drainage system which consists of HDPE pipes, inlets, cleanouts, and Brooks boxes. Runoff is conveyed to the proposed Biofiltration Basin that is located adjacent to Plato Place. Runoff that enters the basin is treated/stored and then discharged into Piraeus Street via curb outlet. Runoff then travels north and is collected by an existing inlet within Piraeus Street which is located at the northwest corner of the site.

The remainder of the runoff will be discharged to an existing 18" CMP pipe northwest of the site. Runoff will then travel west under Interstate-5.

All runoff from the site confluences to the west of Interstate-5 within a concrete ditch before heading north and discharging into the Batiquitos Lagoon and ultimately into the Pacific Ocean.

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

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant
Batiquitos Lagoon (904.51)	Toxicity	Toxicity
Pacific Ocean (Batiquitos HSA)	Total Coliform	Total Coliform

Identification of Project Site Pollutants*

***Identification of project site pollutants is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs (note the project must also participate in an alternative compliance program unless prior lawful approval to meet earlier PDP requirements is demonstrated)**

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

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

Pesticides	X		
Hydromodification Management Requirements			
<p>Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?</p> <p><input checked="" type="checkbox"/> Yes, hydromodification management flow control structural BMPs required.</p> <p><input type="checkbox"/> No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.</p> <p><input type="checkbox"/> No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.</p> <p><input type="checkbox"/> No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA for the watershed in which the project resides.</p> <p>Description / Additional Information (to be provided if a 'No' answer has been selected above):</p>			
Critical Coarse Sediment Yield Areas*			
*This section only required if hydromodification management requirements apply			
<p>Based on the maps provided within the WMAA, do potential critical coarse sediment yield areas exist within the project drainage boundaries?</p> <p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No, no critical coarse sediment yield areas to be protected based on WMAA maps</p> <p>If yes, have any of the optional analyses presented in Section 6.2 of the BMP Design Manual been performed?</p> <p><input type="checkbox"/> 6.2.1 Verification of Geomorphic Landscape Units (GLUs) Onsite</p> <p><input type="checkbox"/> 6.2.2 Downstream Systems Sensitivity to Coarse Sediment</p> <p><input type="checkbox"/> 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite</p> <p><input type="checkbox"/> No optional analyses performed, the project will avoid critical coarse sediment yield areas identified based on WMAA maps</p> <p>If optional analyses were performed, what was the final result?</p> <p><input type="checkbox"/> No critical coarse sediment yield areas to be protected based on verification of GLUs onsite</p> <p><input type="checkbox"/> Critical coarse sediment yield areas exist but additional analysis has determined that protection is not required. Documentation attached in Attachment 2.b of the SWQMP.</p> <p><input type="checkbox"/> Critical coarse sediment yield areas exist and require protection. The project will implement management measures described in Sections 6.2.4 and 6.2.5 as applicable, and the areas are identified on the SWQMP Exhibit.</p> <p>Discussion / Additional Information:</p>			

Flow Control for Post-Project Runoff*

*This section only required if hydromodification management requirements apply

List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.

In the proposed condition, there is one point of compliance for flow control hydromodification management identified as POC-A. Refer to the projects DMA Map for location. The biofiltration basin adjacent to Plato Place has been sized to meet HMP requirements for the site.

Has a geomorphic assessment been performed for the receiving channel(s)?

- No, the low flow threshold is 0.1Q2 (default low flow threshold)
- Yes, the result is low flow threshold 0.1Q2
- Yes, the result is low flow threshold 0.3Q2
- Yes, the result is low flow threshold 0.5Q2

If a geomorphic assessment has been performed, provide title, date, and preparer:

Discussion / Additional Information: (optional)

Other Site Requirements and Constraints

When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.

SOURCE CONTROL BMP CHECKLIST

All development projects must implement source control BMPs SC-1 through SC-6 where applicable and feasible. See Chapter 4 and Appendix E of the manual for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided.

Source Control Requirement	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-2 Storm Drain Stenciling or Signage	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
<input checked="" type="checkbox"/> Onsite storm drain inlets	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> Interior floor drains and elevator shaft sump pumps drain to sewer	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Interior parking garages drain to sewer	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Need for future indoor & structural pest control	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Landscape/outdoor pesticide use	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Pools, spas, ponds, decorative fountains, and other water features	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> Food service	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Refuse/Trash areas must be covered	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> Industrial processes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Outdoor storage of equipment or materials must be covered	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> Vehicle and equipment cleaning	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Vehicle/equipment repair and maintenance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Fuel dispensing areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Loading docks	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Fire sprinkler test water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Miscellaneous drain or wash water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Plazas, sidewalks, and parking lots	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

Discussion / justification if **SC-1 through SC-6** not implemented. Justification must be provided for ALL "No" answers shown above.

SITE DESIGN BMP CHECKLIST

All development projects must implement site design BMPs SD-1 through SD-8 where applicable and feasible. See Chapter 4 and Appendix E of the manual for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided.

Source Control Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SD-2 Conserve Natural Areas, Soils, and Vegetation	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SD-3 Minimize Impervious Area	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SD-4 Minimize Soil Compaction	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SD-5 Impervious Area Dispersion - Directly Connected Impervious Areas (e.g. roof downspouts connected to street) are not allowed	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SD-6 Runoff Collection	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SD-7 Landscaping with Native or Drought Tolerant Species	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SD-8 Harvesting and Using Precipitation	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

Discussion / justification if SD-1 through SD-8 not implemented. Justification must be provided for ALL "No" answers shown above.

Harvest and use is not feasible for this project. See Harvest and Use Feasibility Form for calculations.

PDP STRUCTURAL BMPS

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the local jurisdiction at the completion of construction. This may include requiring the project owner or project owner's representative and engineer of record to certify construction of the structural BMPs (see Section 1.12 of the BMP Design Manual). PDP structural BMPs must be maintained into perpetuity (see Section 7 of the BMP Design Manual). The local jurisdiction will confirm the maintenance annually.

Use this section to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (page 3 of this form) for each structural BMP within the project (copy the BMP summary information page as many times as needed to provide summary information for each individual structural BMP).

Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the BMP Design Manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate.

The project site is comprised of one (1) drainage management area (DMA) draining to one (1) point of compliance (POC) with one (1) de minimis area and three (3) self-mitigating areas draining directly offsite.

The type of structural BMP chosen for the project was based on the flow chart presented in Figures 5-1 and 5-2 of the City of Encinitas BMP Design Manual (February 2016). Using Worksheet B.3-1 to determine feasibility of using capture and use techniques for the property, it was ultimately concluded harvest and use BMPs are considered infeasible.

A feasibility study was then performed to determine whether infiltration is feasible for the project's structural BMPs. The negative impacts associated with infiltration and retention were identified and documented in the attached Geotechnical Investigation. Based on site geologic conditions and at the recommendation of the geotechnical engineer, the site is in a "No Infiltration" designation for storm water BMP design.

The project is proposing one HMP-sized biofiltration basin (BF-1) to meet treatment and storage requirements. The biofiltration basins have been sized to demonstrate compliance with HMP requirements using the County of San Diego HMP spreadsheets. Refer to Attachment 2 of this report for detailed HMP calculations in addition to the project Hydrology Report prepared by Pasco, Laret, Suiter & Associates for additional information.

All on-site private storm drain systems and post construction BMP's have been sized to convey the 100-year, 6-hour storm event and release discharge to the existing storm drain system at a lower rate than in pre-development conditions.

STRUCTURAL BMP SUMMARY INFORMATION

Copy this page as necessary to provide information on each individual proposed structural BMP

Structural BMP ID No: BMP-1	DMA No: 1
Construction Plan Sheet No: 6	
<p>Type of structural BMP:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Retention by harvest and use (HU-1) <input type="checkbox"/> Retention by infiltration basin (INF-1) <input type="checkbox"/> Retention by bioretention (INF-2) <input type="checkbox"/> Retention by permeable pavement (INF-3) <input type="checkbox"/> Partial retention by biofiltration with partial retention (PR-1) <input checked="" type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Biofiltration with Nutrient Sensitive Media Design (BF-2) <input type="checkbox"/> Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F <input type="checkbox"/> Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) <input type="checkbox"/> Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) <input type="checkbox"/> Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) <input type="checkbox"/> Detention pond or vault for hydromodification management <input type="checkbox"/> Other (describe in discussion section below) 	
<p>Purpose:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Pollutant control only <input type="checkbox"/> Hydromodification control only <input checked="" type="checkbox"/> Combined pollutant control and hydromodification control <input type="checkbox"/> Pre-treatment/forebay for another structural BMP <input type="checkbox"/> Other (describe in discussion section below) 	
Who will inspect and certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms required by the City Engineer (See Section 1.12 of the BMP Design Manual)	Pasco Laret Suiter & Associates 1911 San Diego Ave. Suite 100 San Diego, CA 92110 (858) 259-8212
Who will be the final owner of this BMP?	HOA
Who will maintain this BMP into perpetuity?	HOA
What is the funding mechanism for maintenance?	HOA
<p>Discussion (as needed):</p> <p>An HOA will be formed and will be responsible for the maintenance of storm water facilities into perpetuity, as required by the City.</p>	

ATTACHMENT 1 - BACKUP FOR PDP POLLUTANT CONTROL BMPS

This is the cover sheet for Attachment 1.

Indicate which items are included behind this cover sheet:

Attachment	Contents	Checklist
Attachment 1a	DMA Exhibit (Required) See DMA Exhibit Checklist on the back of this Attachment cover sheet.	<input checked="" type="checkbox"/> Included
Attachment 1b	Tabular Summary of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type (Required)* *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	<input checked="" type="checkbox"/> Included on DMA Exhibit in Attachment 1a <input type="checkbox"/> Included as Attachment 1b, separate from DMA Exhibit
Attachment 1c	Form I-7, Harvest and Use Feasibility Screening Checklist (Required unless the entire project will use infiltration BMPs) Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	<input checked="" type="checkbox"/> Included <input type="checkbox"/> Not included because the entire project will use infiltration BMPs
Attachment 1d	Form I-8, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	<input checked="" type="checkbox"/> Included <input type="checkbox"/> Not included because the entire project will use harvest and use BMPs
Attachment 1e	Pollutant Control BMP Design Worksheets / Calculations (Required) Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines	<input checked="" type="checkbox"/> Included

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

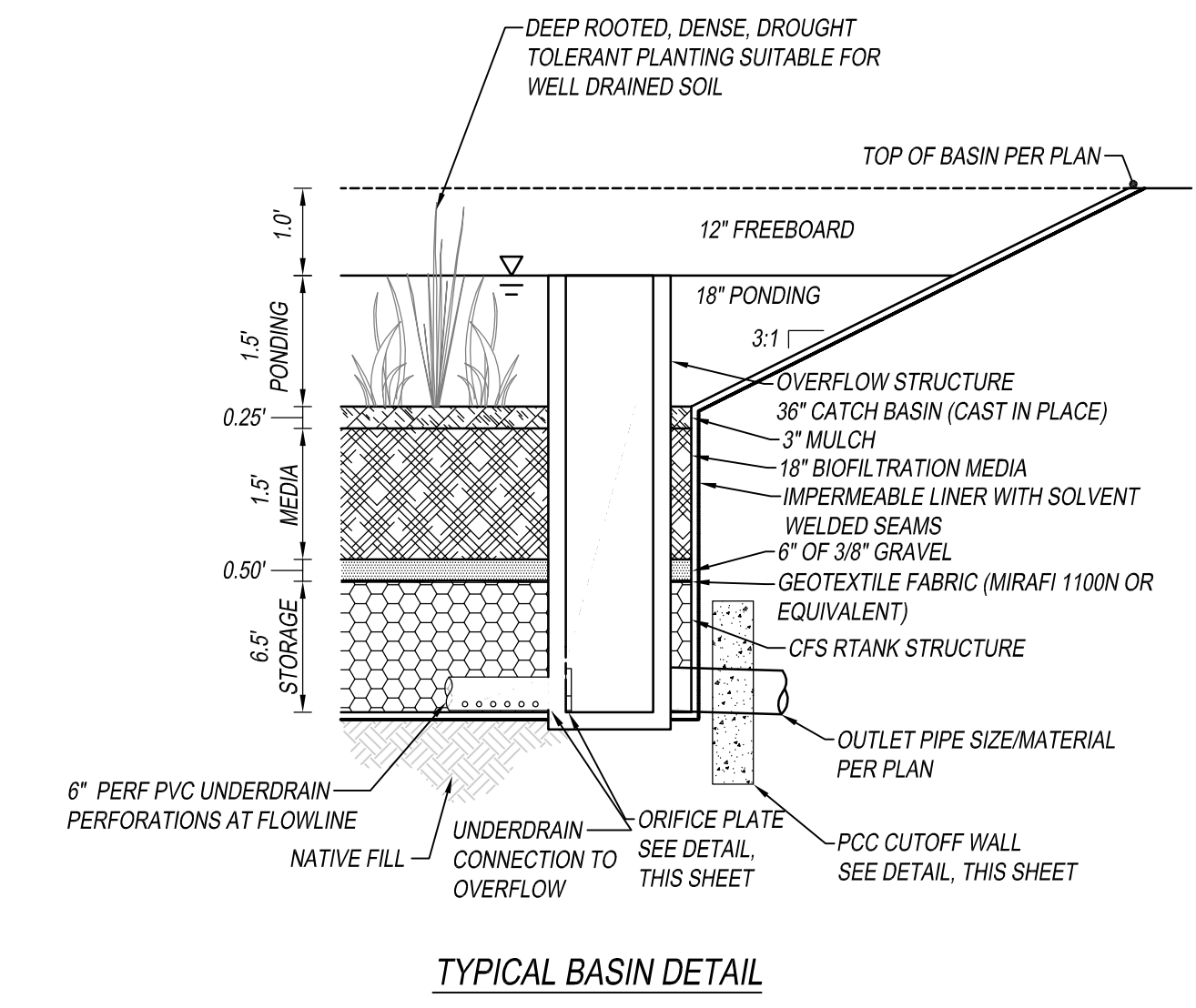
The DMA Exhibit must identify:

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

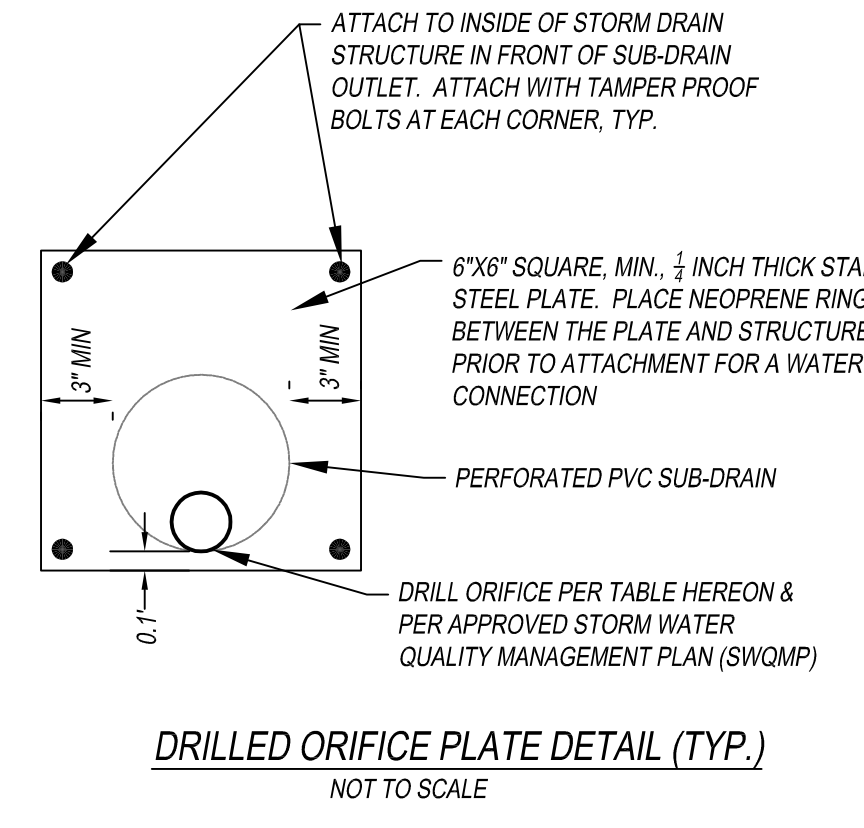
Attachment 1a – DMA Exhibit

DMA/HMP EXHIBIT

PIRAEUS STREET, ENCINITAS, CA



NOTE:
1. BIOFILTRATION "ENGINEERED SOIL" LAYER SHALL BE EVENLY MIXED COMPOSITION OF WASHED SAND, SANDY LOAM TOPSOIL, AND HUMIC COMPOST. THE MIX SHALL CONTAIN 65% SAND, 20% TOPSOIL, AND 15% COMPOST OR HARDWOOD MULCH IN ACCORDANCE WITH COUNTY OF SAN DIEGO LID BIOSWALE MEDIA B1065 CUT SHEET



SOURCE CONTROL

IDENTIFIER	DESCRIPTION	USED?
SC-1	PREVENTION OF ILLICIT DISCHARGES INTO THE MS4	YES
SC-2	STORM DRAIN STENCILING OR SIGNAGE	YES
SC-3	PROTECT OUTDOOR MATERIALS STORAGE AREA	N/A
SC-4	PROTECT MATERIALS STORED IN OUTDOOR WORK AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND W	N/A
SC-5	PROTECT TRASH STORAGE AREAS	YES
SC-6	ADDITIONAL BMPS BASED ON POTENTIAL SOURCES OF POLLUTANTS	YES

SITE DESIGN

IDENTIFIER	DESCRIPTION	USED?
SD-1	MAINTAIN NATURAL DRAINAGE PATHWAYS AND HYDROLOGIC FEATURES	YES
SD-2	CONSERVE NATURAL AREAS, SOILS, AND VEGETATION	YES
SD-3	MINIMIZE IMPERVIOUS AREA	YES
SD-4	MINIMIZE SOIL COMPACTION	YES
SD-5	IMPERVIOUS AREA DISPERSION	YES
SD-6	RUNOFF COLLECTION	YES
SD-7	DROUGHT TOLERANT OR NATIVE LANDSCAPING	YES
SD-8	HARVEST AND USE	NO

LEGEND

PROPERTY LINE	---
RIGHT-OF-WAY	---
ADJACENT PROPERTY LINE	---
CENTER LINE OF ROAD	---
DMA BOUNDARY	---
PROPOSED STORM DRAIN	---
ROOFS	▨
ASHPHALT OR CONCRETE (ROAD)	▨
CONCRETE (HARDSCAPE)	▨
LANDSCAPE	▨
SELF-MITIGATING AREA	▨
DE-MINIMIS AREA	▨

DMA-1 CALCULATIONS

TOTAL DISTURBED AREA	=	6.25 AC
DMA-1 AREA (A)	=	5.80 AC
RUNOFF FACTOR (C)	=	0.74
85TH PERCENTILE RAINFALL DEPTH (d)	=	0.57 INCHES
IMPERVIOUS AREA:		
BUILDING/ROOF	=	96,273 SF
HARDSCAPE	=	15,446 SF
ROAD	=	89,832 SF
PERVIOUS AREA:		
LANDSCAPE AREA	=	51,016 SF
% IMPERVIOUS AREA:	=	79.8%
DCV (C*1/4*6,330)	=	8,859 CU FT

SOIL TYPE INFORMATION

HYDROLOGIC SOIL TYPE: D

CRITICAL COARSE SEDIMENT YIELD

NO CRITICAL COARSE SEDIMENT YIELD AREAS TO BE PROTECTED.

GROUNDWATER INFORMATION

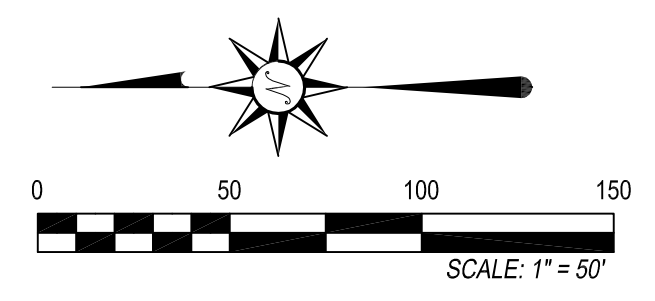
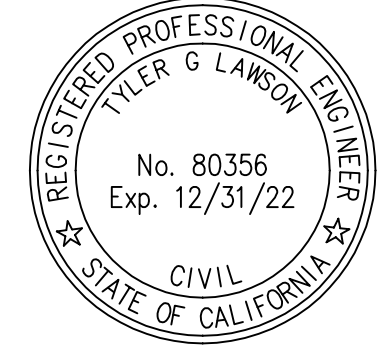
GROUNDWATER WAS ENCOUNTERED AT ELEVATIONS 38 TO 49 FEET BELOW EXISTING GRADE DURING TESTING

BMP BASIN DATA TABLE

BMP ID	SURFACE AREA	PONDING DEPTH	STORAGE DEPTH
A	5,600 SF	18"	96"

BMP SIZE & ORIFICE DIAMETER SUMMARY TABLE

BMP #	H _p (FT)	H _s (FT)	H _{RTANK} (FT)	HMP ORIFICE (IN)	A _{BOT} (FT ²)	A _{TOP} (FT ²)
A	1.5	1.5	6.5	1.2	5,600	7,608



PREPARED BY:
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Attachment 1c – Form I-7, Harvest and Use Feasibility

Worksheet B.3-1. Harvest and Use Feasibility Screening

Harvest and Use Feasibility Screening		Worksheet B.3-1
<p>1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?</p> <p>✓ Toilet and urinal flushing ✓ Landscape irrigation Other: _____</p>		
<p>2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in Section B.3.2.</p> <p><u>Toilet/Urinal Flushing</u> (9.3 gal/person-day) x (0.13368 cuft/gal) x (1.5 days) = 1.86 cuft/person-36hr Assume (447 people) x (1.86 cuft/person-36 hr) = 832 cuft/36hr</p> <p><u>Landscape Irrigation</u> (1.171 ac irrigated) x (390 gal/ac-36hr) x (0.13368 cuft/gal) = 61 cuft/36hr</p> <p>Total = 832 cuft + 61 cuft = 893 cuft</p>		
<p>3. Calculate the DCV using worksheet B-2.1.</p> <p>DCV = 8,859 cuft</p>		
<p>3a. Is the 36-hour demand greater than or equal to the DCV? Yes / ✓ No</p>	<p>3b. Is the 36-hour demand greater than 0.25DCV but less than the full DCV? Yes / ✓ No</p>	<p>3c. Is the 36-hour demand less than 0.25DCV? ✓ Yes</p>
<p>Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.</p>	<p>Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.</p>	<p>✓ Harvest and use is considered to be infeasible.</p>

Attachment 1d – From I-8, Categorization of Infiltration Feasibility
Condition

BMP-1

Categorization of Infiltration Feasibility Condition		Form I-8	
<p>Part 1 - Full Infiltration Feasibility Screening Criteria</p> <p>Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?</p>			
Criteria	Screening Question	Yes	No
1	<p>Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.</p>		X
<p>Provide basis:</p> <p>BMP-1 will be supported by approximately 15 feet of compacted fill over previously-placed fill. Based on our experience, compacted fill is not conducive to infiltration BMP's due low permeability. Infiltration BMP's supported on compacted fill increase the potential for differential settlement of granular soils, heaving of expansive soils, lateral water migration, daylight water seepage on slopes, slope instability, and landsliding.</p>			
2	<p>Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.</p>		X
<p>Provide basis:</p> <p>The property is underlain by a landslide that will be mitigated during grading. Infiltration BMP's greatly increase the risk for raised groundwater, slope instability and landsliding. BMP-1 is situated adjacent to an existing fill slope. Public utilities are located at the toe of this slope. Infiltration BMP's adjacent to existing fill slopes are not recommended. In addition, infiltration BMP's would require a standard horizontal setback from top of slope of 1.5H, H being the slope height. Infiltration BMP's may result in lateral water migration and daylight water seepage that could adversely impact public utilities and right of ways.</p>			

Form I-8 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
<p>Provide basis:</p> <p>Groundwater is not expected within 10 feet from the bottom of the basin, therefore, we do expect an increase in groundwater contamination as a result of storm water infiltration.</p>			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
<p>Provide basis:</p> <p>We are not aware of any water balance issues. Researching water balance issues is not the responsibility of the geotechnical engineer. We also are not aware of any increased discharge of contaminated water to surface water.</p>			
Part 1 Result *	<p>If all answers to rows 1 - 4 are “Yes” a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration</p> <p>If any answer from row 1-4 is “No”, infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a “full infiltration” design. Proceed to Part 2</p>		No

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

Form I-8 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria			
Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
<p>Provide basis:</p> <p>BMP-1 will be supported by approximately 15 feet of compacted fill over previously-placed fill. Based on our experience, compacted fill is not conducive to infiltration BMP's due low permeability. Infiltration BMP's supported on compacted fill increase the potential for differential settlement of granular soils, heaving of expansive soils, lateral water migration, daylight water seepage on slopes, slope instability, and landsliding.</p>			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
<p>Provide basis:</p> <p>The property is underlain by a landslide that will be mitigated during grading. Infiltration BMP's greatly increase the risk for raised groundwater, slope instability and landsliding. BMP-1 is situated adjacent to an existing fill slope. Public utilities are located at the toe of this slope. Infiltration BMP's adjacent to existing fill slopes are not recommended. In addition, infiltration BMP's would require a standard horizontal setback from top of slope of 1.5H, H being the slope height. Infiltration BMP's may result in lateral water migration and daylight water seepage that could adversely impact public utilities and right of ways.</p>			

Form I-8 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	<p>Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>	X	
<p>Provide basis:</p> <p>Groundwater is not expected within 10 feet from the bottom of the basin, therefore, we do expect an increase in groundwater contamination as a result of storm water infiltration.</p>			
8	<p>Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.</p>	X	
<p>Provide basis:</p> <p>We are not aware of any water balance issues. Researching water balance issues is not the responsibility of the geotechnical engineer. We also are not aware of any increased discharge of contaminated water to surface water.</p>			
Part 2 Result*	<p>If all answers from row 5-8 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration.</p> <p>If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.</p>		No Infiltration

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

Attachment 1e – Pollutant Control BMP Design Worksheets/
Calculations

Runoff Factor (C)			
Surface	Runoff Factor	Area (sq. ft)	Weighted Area
Roofs	0.90	96,273	86,646
Asphalt or Concrete (Road)	0.90	89,832	80,849
Asphalt or Concrete (Hardscape)	0.90	15,446	13,901
Unit Pavers (Grouted)	0.90	-	-
Pervious Pavers	0.10	-	-
Pervious Pavement	0.10	-	-
Decomposed Granite	0.30	-	-
Cobbles or Crushed Aggregate	0.30	-	-
Amended, Mulched Soils or Landscape	0.10	51,016	5,102
Compacted Soil (eg. Unpaved Parking)	0.30	-	-
Natural (A Soil)	0.10	-	-
Natural (B Soil)	0.14	-	-
Natural (C Soil)	0.23	-	-
Natural (D Soil)	0.30	-	-
Total		252,567	186,498
Composite C	0.74		

Design Capture Volume (DCV)			Worksheet B-2.1	
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.57	inches
2	Area tributary to BMP(s)	A=	5.80	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.74	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction (1 cubic foot=7.48 gallons)	RCV=	0	cubic-feet
6	Calculate DCV=(3630 x C x d x A) - TCV - RCV	DCV=	8859	cubic-feet

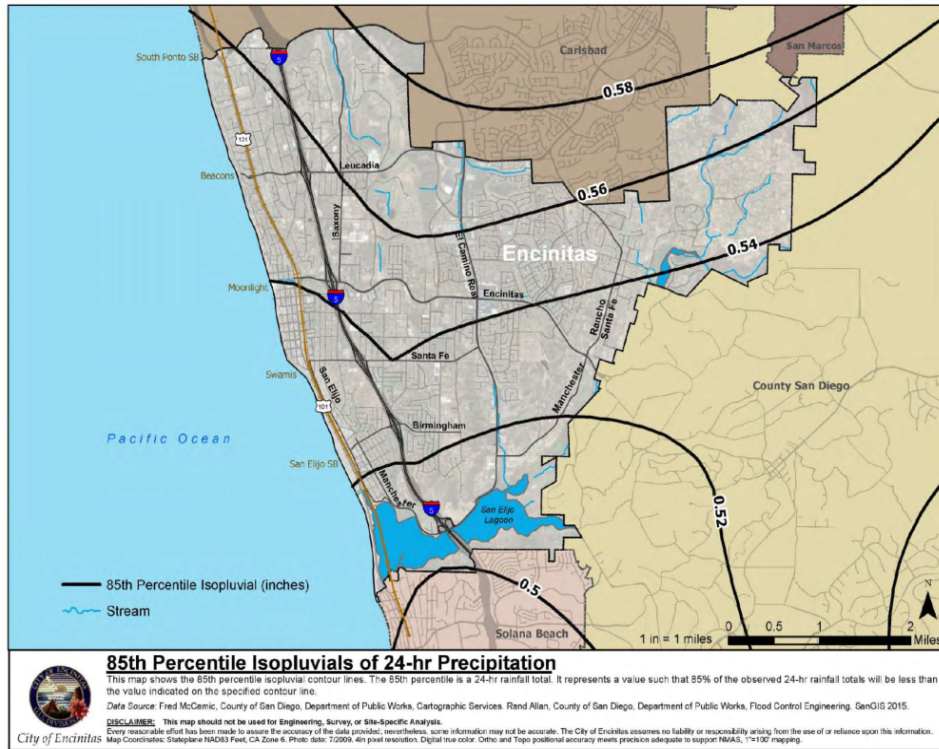


Figure B.1-1: 85th Percentile 24-hour Isopluvial Map

DMA-A

Simple Sizing Method for Biofiltration BMPs (DMA A1)		Worksheet B.5-1	
1	Remaining DCV after implementing retention BMPs	8859	cubic-feet
Partial Retention			
2	Infiltration rate from Worksheet D.5-1 if partial infiltration is feasible	0.00	in/hr
3	Allowable drawdown time for aggregate storage below the underdrain	36.00	hours
4	Depth of runoff that can be infiltrated [Line 2 x Line 3]	0.00	inches
5	Aggregate pore space	0.40	in/in
6	Required depth of gravel below the underdrain [Line 4/Line 5]	0.00	inches
7	Assumed surface area of the biofiltration BMP	5600.00	sq-ft
8	Media retained pore space	0.10	in/in
9	Volume retained by BMP $[(\text{Line 4} + (\text{Line 12} \times \text{Line 8}))/12] \times \text{Line 7}$	840.00	cubic-feet
10	DCV that requires biofiltration [Line 1 -Line 9]	8018.64	cubic-feet
BMP Parameters			
11	Surface Ponding [6 inch minimum, 12 inch maximum]	18.00	inches
12	Media Thickness [18 inches minimum]	18.00	inches
13	Aggregate storage above underdrain invert (12 inches typical) - use 0 inches for sizing if the aggregate is not over the entire bottom surface area	78.00	inches
14	Media available pore space	0.20	in/in
15	Media filtration rate to be used for sizing	5.00	in/hr
Baseline Calculations			
16	Allowable Routing Time for sizing	6.00	hours
17	Depth filtered during storm [Line 15 x Line 16]	30.00	inches
18	Depth of Detention Storage [Line 11 + (Line 12 x Line 14) + (Line 13 x Line 5)]	52.80	inches
19	Total Depth Treated [Line 17 + Line 18]	82.80	inches
Option 1 - Biofilter 1.5 times the DCV			
20	Required biofiltered volume [1.5 x Line 10]	12027.96	cubic-feet
21	Required Footprint [Line 20/Line 19] x 12	1743.18	sq-ft
Option 2 - Store 0.75 of the remaining DCV in pores and ponding			
22	Required Storage (surface + pores) Volume [0.75 x Line 10]	6013.98	cubic-feet
23	Required Footprint [Line 22/Line 18] x 12	1366.81	sq-ft
Footprint of the BMP			
24	Area draining to the BMP	252566.84	sq-ft
25	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)	0.74	sq-ft
26	Minimum BMP Footprint [Line 24 x Line 25 x 0.03]	5594.93	sq-ft
27	Footprint of the BMP = Maximum (Minimum(Line 21, Line 23), Line 26)	5594.93	sq-ft

Note: Line 7 is used to estimate the amount of volume retained by the BMP. Update assumed surface area in Line 7 until it is equivalent to the required biofiltration footprint (either Line 21 or Line 23)

ATTACHMENT 2 - BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES

This is the cover sheet for Attachment 2.

Mark this box if this attachment is not included because the project is exempt from PDP hydromodification management requirements.

Indicate which items are included behind this cover sheet:

Attachment	Contents	Checklist
Attachment 2a	Hydromodification Management Exhibit (Required)	<input checked="" type="checkbox"/> Included See Hydromodification Management Exhibit Checklist on the back of this Attachment cover sheet.
Attachment 2b	Management of Critical Coarse Sediment Yield Areas (WMAA Exhibit is required, additional analyses are optional) See Section 6.2 of the BMP Design Manual.	<input checked="" type="checkbox"/> Exhibit showing project drainage boundaries marked on WMAA Critical Coarse Sediment Yield Area Map (Required) Optional analyses for Critical Coarse Sediment Yield Area Determination <input type="checkbox"/> 6.2.1 Verification of Geomorphic Landscape Units Onsite <input type="checkbox"/> 6.2.2 Downstream Systems Sensitivity to Coarse Sediment <input type="checkbox"/> 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite
Attachment 2c	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	<input checked="" type="checkbox"/> Not performed <input type="checkbox"/> Included <input type="checkbox"/> Submitted as separate stand-alone document
Attachment 2d	Flow Control Facility Design, including Structural BMP Drawdown Calculations and Overflow Design Summary (Required) See Chapter 6 and Appendix G of the BMP Design Manual	<input checked="" type="checkbox"/> Included <input type="checkbox"/> Submitted as separate stand-alone document
Attachment 2e	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	<input type="checkbox"/> Included <input checked="" type="checkbox"/> Not required because BMPs will drain in less than 96 hours

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

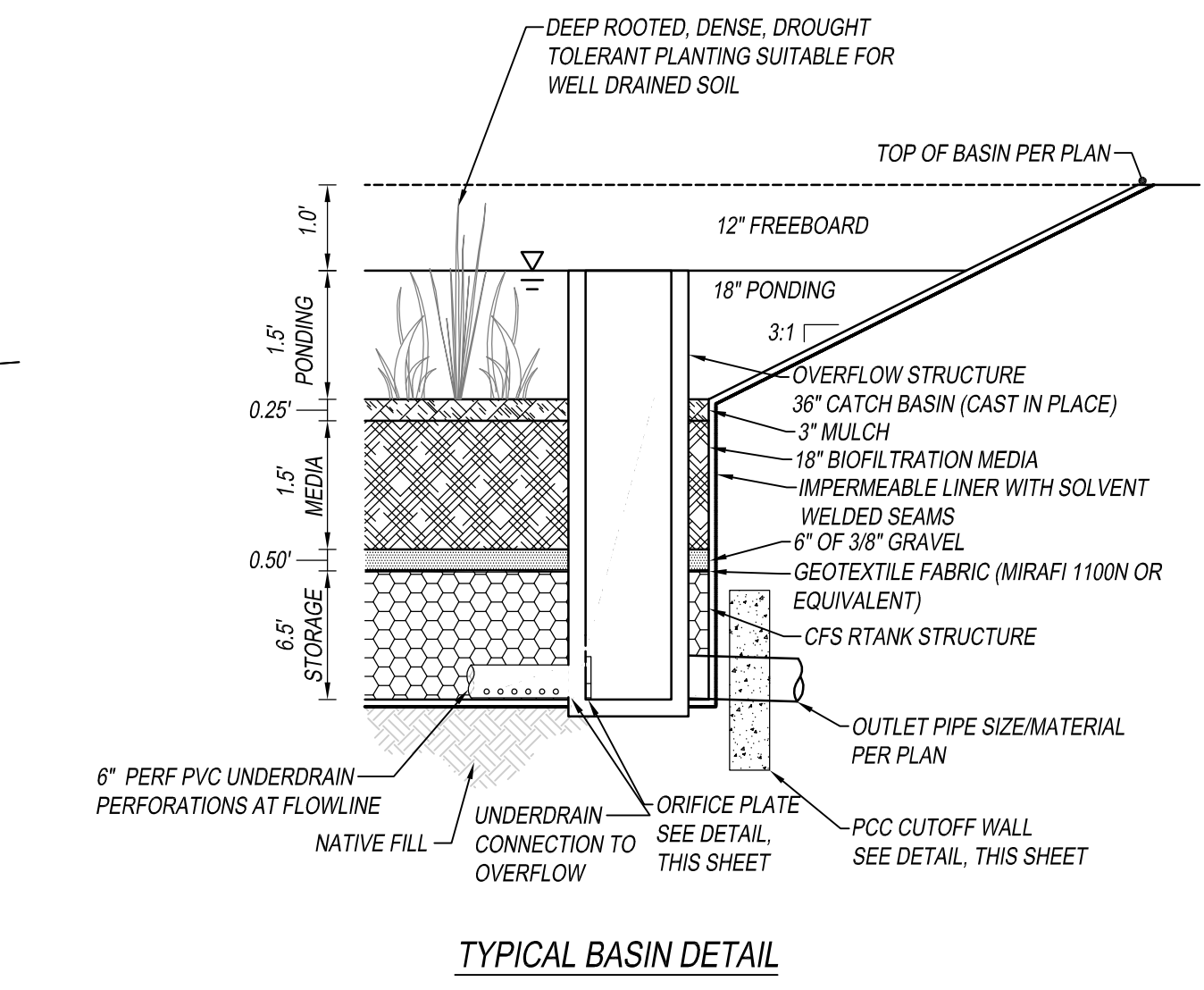
The Hydromodification Management Exhibit must identify:

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

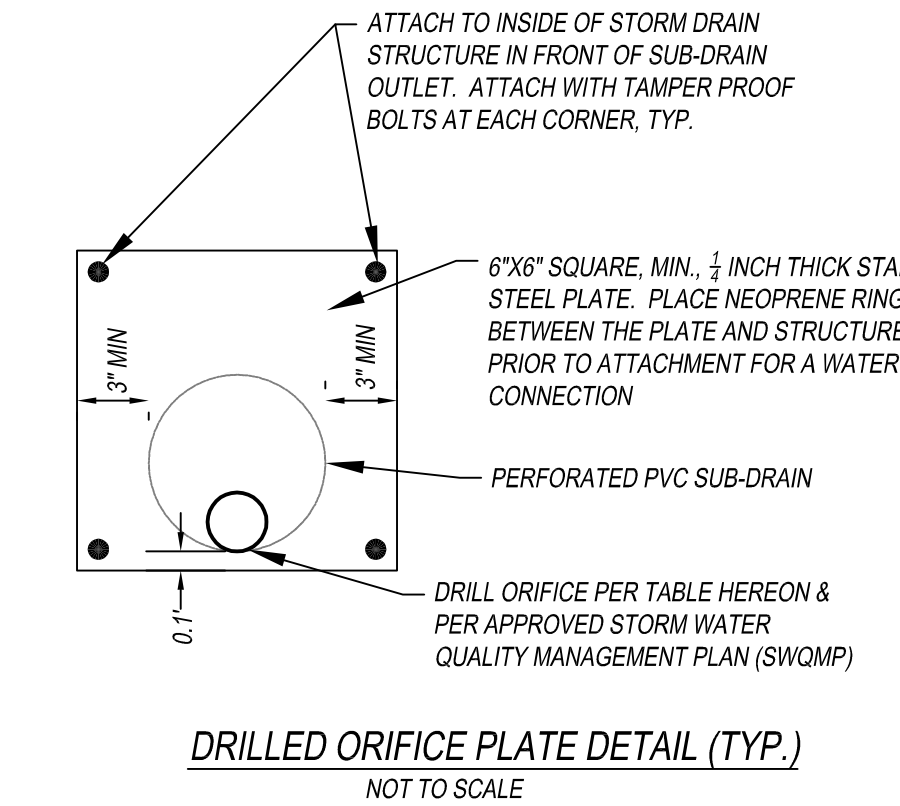
Attachment 2a – Hydromodification Management Exhibit

DMA/HMP EXHIBIT

PIRAEUS STREET, ENCINITAS, CA



NOTE:
1. BIOFILTRATION "ENGINEERED SOIL" LAYER SHALL BE EVENLY MIXED COMPOSITION OF WASHED SAND, SANDY LOAM TOPSOIL, AND HUMIC COMPOST. THE MIX SHALL CONTAIN 65% SAND, 20% TOPSOIL, AND 15% COMPOST OR HARDWOOD MULCH IN ACCORDANCE WITH COUNTY OF SAN DIEGO LID BIOSWALE MEDIA B1065 CUT SHEET



SOURCE CONTROL

IDENTIFIER	DESCRIPTION	USED?
SC-1	PREVENTION OF ILLICIT DISCHARGES INTO THE MS4	YES
SC-2	STORM DRAIN STENCILING OR SIGNAGE	YES
SC-3	PROTECT OUTDOOR MATERIALS STORAGE AREA	N/A
SC-4	PROTECT MATERIALS STORED IN OUTDOOR WORK AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND W	N/A
SC-5	PROTECT TRASH STORAGE AREAS	YES
SC-6	ADDITIONAL BMPS BASED ON POTENTIAL SOURCES OF POLLUTANTS	YES

SITE DESIGN

IDENTIFIER	DESCRIPTION	USED?
SD-1	MAINTAIN NATURAL DRAINAGE PATHWAYS AND HYDROLOGIC FEATURES	YES
SD-2	CONSERVE NATURAL AREAS, SOILS, AND VEGETATION	YES
SD-3	MINIMIZE IMPERVIOUS AREA	YES
SD-4	MINIMIZE SOIL COMPACTION	YES
SD-5	IMPERVIOUS AREA DISPERSION	YES
SD-6	RUNOFF COLLECTION	YES
SD-7	DROUGHT TOLERANT OR NATIVE LANDSCAPING	YES
SD-8	HARVEST AND USE	NO

LEGEND

PROPERTY LINE	---
RIGHT-OF-WAY	---
ADJACENT PROPERTY LINE	---
CENTER LINE OF ROAD	---
DMA BOUNDARY	---
PROPOSED STORM DRAIN	---
ROOFS	---
ASHPHALT OR CONCRETE (ROAD)	---
CONCRETE (HARDSCAPE)	---
LANDSCAPE	---
SELF-MITIGATING AREA	---
DE-MINIMIS AREA	---

DMA-1 CALCULATIONS

TOTAL DISTURBED AREA	=	6.25 AC
DMA-1 AREA (A)	=	5.80 AC
RUNOFF FACTOR (C)	=	0.74
85TH PERCENTILE RAINFALL DEPTH (d)	=	0.57 INCHES
IMPERVIOUS AREA:		
BUILDING/ROOF	96,273 SF	
HARDSCAPE	15,446 SF	
ROAD	89,832 SF	
PERVIOUS AREA:		
LANDSCAPE AREA	51,016 SF	
% IMPERVIOUS AREA:	79.8%	
DCV (C*1/4*3,630)	=	8,859 CU FT

SOIL TYPE INFORMATION

HYDROLOGIC SOIL TYPE: D

CRITICAL COARSE SEDIMENT YIELD

NO CRITICAL COARSE SEDIMENT YIELD AREAS TO BE PROTECTED.

GROUNDWATER INFORMATION

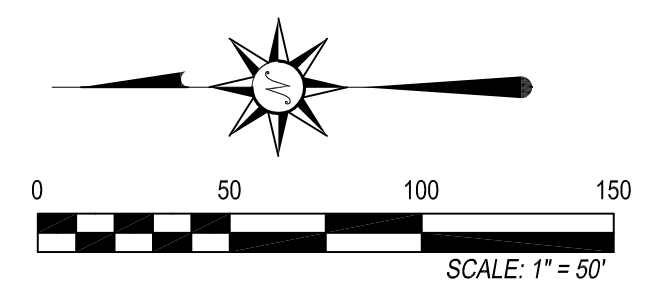
GROUNDWATER WAS ENCOUNTERED AT ELEVATIONS 38 TO 49 FEET BELOW EXISTING GRADE DURING TESTING

BMP BASIN DATA TABLE

BMP ID	SURFACE AREA	PONDING DEPTH	STORAGE DEPTH
A	5,600 SF	18"	96"

BMP SIZE & ORIFICE DIAMETER SUMMARY TABLE

BMP #	H _p (FT)	H _s (FT)	H _{RTANK} (FT)	HMP ORIFICE (IN)	A _{Bot} (FT ²)	A _{Top} (FT ²)
A	1.5	1.5	6.5	1.2	5,600	7,608



PREPARED BY:

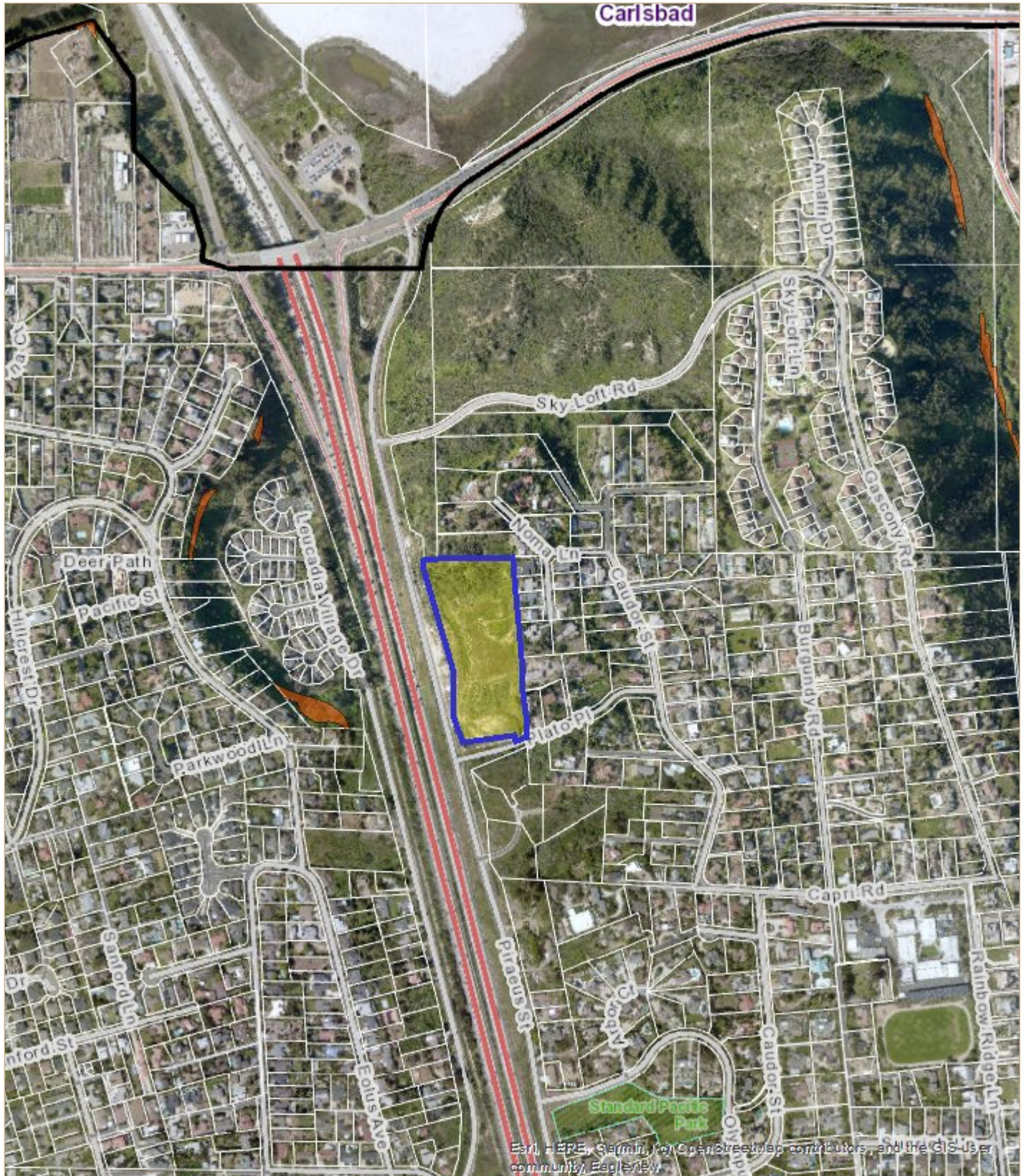
PASCO LARET SUIER & ASSOCIATES

San Diego | Encinitas | Orange County
Phone 858.259.8212 | www.plsaengineering.com

Attachment 2b – Management of Critical Course Sediment Yield Areas

APN: 2541440100

Address: N/A



Attachment 2d – Flow Control Facility Design

SDHM 3.1
PROJECT REPORT

General Model Information

Project Name: 3733 5600 sf Quick Model
Site Name: 3733
Site Address: 1500 Piraeus
City: Encinitas
Report Date: 9/8/2022
Gage: ENCINITA
Data Start: 10/01/1963
Data End: 09/30/2004
Timestep: Hourly
Precip Scale: 1.000
Version Date: 2021/06/28

POC Thresholds

Low Flow Threshold for POC1: 10 Percent of the 2 Year
High Flow Threshold for POC1: 10 Year

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Landuse Basin Data
Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
D,NatVeg,Steep	5.798
Pervious Total	5.798
Impervious Land Use	acre
Impervious Total	0
Basin Total	5.798

Element Flows To:
Surface Interflow Groundwater

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Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use A,NatVeg,Flat	acre 1.171
Pervious Total	1.171
Impervious Land Use IMPERVIOUS-FLAT	acre 4.627
Impervious Total	4.627
Basin Total	5.798

Element Flows To:
Surface Interflow Groundwater
Surface retention 1 Surface retention 1

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Routing Elements
Predeveloped Routing

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Mitigated Routing

Bioretention 1

Bottom Length:	140.00 ft.
Bottom Width:	40.00 ft.
Material thickness of first layer:	0.25
Material type for first layer:	Mulch
Material thickness of second layer:	1.5
Material type for second layer:	ESM
Material thickness of third layer:	6.5
Material type for third layer:	PERMAVOID
Underdrain used	
Underdrain Diameter (feet):	0.5
Orifice Diameter (in.):	1.2
Offset (in.):	0
Flow Through Underdrain (ac-ft.):	118.85
Total Outflow (ac-ft.):	120.732
Percent Through Underdrain:	98.44
Discharge Structure	
Riser Height:	1.5 ft.
Riser Diameter:	36 in.
Element Flows To:	
Outlet 1	Outlet 2

Biofilter Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.1286	0.0000	0.0000	0.0000
0.1181	0.1286	0.0046	0.0000	0.0000
0.2363	0.1286	0.0091	0.0000	0.0000
0.3544	0.1286	0.0137	0.0000	0.0000
0.4725	0.1286	0.0182	0.0041	0.0000
0.5907	0.1286	0.0228	0.0105	0.0000
0.7088	0.1286	0.0273	0.0194	0.0000
0.8269	0.1286	0.0319	0.0206	0.0000
0.9451	0.1286	0.0364	0.0212	0.0000
1.0632	0.1286	0.0410	0.0224	0.0000
1.1813	0.1286	0.0456	0.0249	0.0000
1.2995	0.1286	0.0501	0.0261	0.0000
1.4176	0.1286	0.0547	0.0267	0.0000
1.5357	0.1286	0.0592	0.0278	0.0000
1.6538	0.1286	0.0638	0.0284	0.0000
1.7720	0.1286	0.0781	0.0294	0.0000
1.8901	0.1286	0.0925	0.0314	0.0000
2.0082	0.1286	0.1068	0.0323	0.0000
2.1264	0.1286	0.1212	0.0328	0.0000
2.2445	0.1286	0.1355	0.0337	0.0000
2.3626	0.1286	0.1499	0.0354	0.0000
2.4808	0.1286	0.1642	0.0363	0.0000
2.5989	0.1286	0.1786	0.0379	0.0000
2.7170	0.1286	0.1929	0.0387	0.0000
2.8352	0.1286	0.2073	0.0404	0.0000
2.9533	0.1286	0.2217	0.0423	0.0000
3.0714	0.1286	0.2360	0.0433	0.0000
3.1896	0.1286	0.2504	0.0448	0.0000
3.3077	0.1286	0.2647	0.0465	0.0000

3.4258	0.1286	0.2791	0.0483	0.0000
3.5440	0.1286	0.2934	0.0500	0.0000
3.6621	0.1286	0.3078	0.0518	0.0000
3.7802	0.1286	0.3221	0.0535	0.0000
3.8984	0.1286	0.3365	0.0551	0.0000
4.0165	0.1286	0.3508	0.0568	0.0000
4.1346	0.1286	0.3652	0.0583	0.0000
4.2527	0.1286	0.3795	0.0599	0.0000
4.3709	0.1286	0.3939	0.0613	0.0000
4.4890	0.1286	0.4082	0.0628	0.0000
4.6071	0.1286	0.4226	0.0642	0.0000
4.7253	0.1286	0.4369	0.0656	0.0000
4.8434	0.1286	0.4513	0.0670	0.0000
4.9615	0.1286	0.4656	0.0683	0.0000
5.0797	0.1286	0.4800	0.0696	0.0000
5.1978	0.1286	0.4943	0.0709	0.0000
5.3159	0.1286	0.5087	0.0722	0.0000
5.4341	0.1286	0.5230	0.0734	0.0000
5.5522	0.1286	0.5374	0.0747	0.0000
5.6703	0.1286	0.5517	0.0759	0.0000
5.7885	0.1286	0.5661	0.0770	0.0000
5.9066	0.1286	0.5804	0.0782	0.0000
6.0247	0.1286	0.5948	0.0794	0.0000
6.1429	0.1286	0.6091	0.0805	0.0000
6.2610	0.1286	0.6235	0.0816	0.0000
6.3791	0.1286	0.6378	0.0827	0.0000
6.4973	0.1286	0.6522	0.0838	0.0000
6.6154	0.1286	0.6666	0.0849	0.0000
6.7335	0.1286	0.6809	0.0859	0.0000
6.8516	0.1286	0.6953	0.0870	0.0000
6.9698	0.1286	0.7096	0.0880	0.0000
7.0879	0.1286	0.7240	0.0890	0.0000
7.2060	0.1286	0.7383	0.0900	0.0000
7.3242	0.1286	0.7527	0.0910	0.0000
7.4423	0.1286	0.7670	0.0920	0.0000
7.5604	0.1286	0.7814	0.0930	0.0000
7.6786	0.1286	0.7957	0.0940	0.0000
7.7967	0.1286	0.8101	0.0949	0.0000
7.9148	0.1286	0.8244	0.0959	0.0000
8.0330	0.1286	0.8388	0.0968	0.0000
8.1511	0.1286	0.8531	0.0978	0.0000
8.2500	0.1286	0.8651	0.1122	0.0000

Biofilter Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	To Amended(cfs)	Infiltr(cfs)
8.2500	0.1286	0.8651	0.0000	0.6481	0.0000
8.3681	0.1315	0.8805	0.0000	0.6481	0.0000
8.4863	0.1345	0.8962	0.0000	0.8583	0.0000
8.6044	0.1374	0.9123	0.0000	0.9093	0.0000
8.7225	0.1405	0.9287	0.0000	0.9604	0.0000
8.8407	0.1435	0.9455	0.0000	1.0114	0.0000
8.9588	0.1465	0.9626	0.0000	1.0624	0.0000
9.0769	0.1496	0.9801	0.0000	1.1135	0.0000
9.1951	0.1527	0.9979	0.0000	1.1645	0.0000
9.3132	0.1559	1.0162	0.0000	1.2156	0.0000
9.4313	0.1590	1.0348	0.0000	1.2666	0.0000
9.5495	0.1622	1.0537	0.0000	1.3177	0.0000
9.6676	0.1654	1.0731	0.0000	1.3687	0.0000

9.7857	0.1686	1.0928	0.2149	1.4198	0.0000
9.9038	0.1718	1.1129	1.9183	1.4708	0.0000
10.022	0.1751	1.1334	4.4941	1.5218	0.0000
10.140	0.1784	1.1543	7.6592	1.5729	0.0000
10.258	0.1817	1.1755	11.223	1.6239	0.0000
10.376	0.1850	1.1972	15.002	1.6750	0.0000
10.495	0.1884	1.2193	18.805	1.7260	0.0000
10.613	0.1917	1.2417	22.445	1.7771	0.0000
10.731	0.1952	1.2646	25.747	1.8281	0.0000
10.750	0.1957	1.2683	28.574	1.8364	0.0000

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Surface retention 1

Element Flows To:

Outlet 1

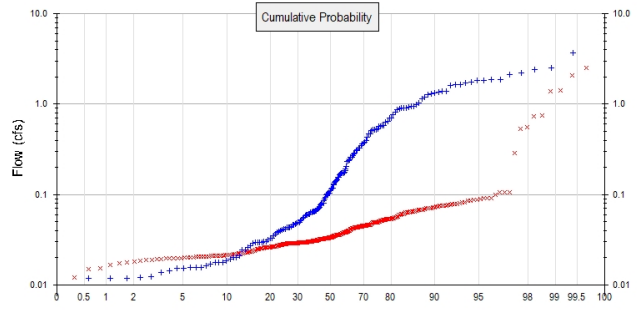
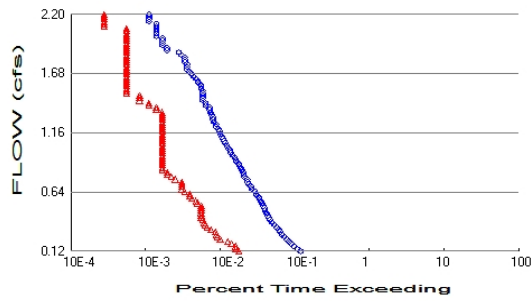
Outlet 2

Bioretention 1

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Analysis Results

POC 1



+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1

Total Pervious Area: 5.798
 Total Impervious Area: 0

Mitigated Landuse Totals for POC #1

Total Pervious Area: 1.171
 Total Impervious Area: 4.627

Flow Frequency Method: Cunnane

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	1.208399
5 year	1.842808
10 year	2.202476
25 year	2.759572

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	0.085283
5 year	0.426577
10 year	1.231832
25 year	2.162567

Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.1208	433	64	14	Pass
0.1419	388	58	14	Pass
0.1629	353	58	16	Pass
0.1839	325	51	15	Pass
0.2049	302	45	14	Pass
0.2260	281	36	12	Pass
0.2470	264	33	12	Pass
0.2680	239	32	13	Pass
0.2891	230	31	13	Pass
0.3101	220	27	12	Pass
0.3311	208	24	11	Pass
0.3521	191	23	12	Pass
0.3732	179	22	12	Pass
0.3942	169	21	12	Pass
0.4152	160	20	12	Pass
0.4362	156	20	12	Pass
0.4573	150	20	13	Pass
0.4783	143	20	13	Pass
0.4993	141	20	14	Pass
0.5203	136	20	14	Pass
0.5414	131	18	13	Pass
0.5624	128	17	13	Pass
0.5834	121	15	12	Pass
0.6045	114	14	12	Pass
0.6255	108	14	12	Pass
0.6465	105	12	11	Pass
0.6675	96	11	11	Pass
0.6886	93	11	11	Pass
0.7096	87	11	12	Pass
0.7306	84	11	13	Pass
0.7516	83	9	10	Pass
0.7727	76	8	10	Pass
0.7937	74	7	9	Pass
0.8147	73	7	9	Pass
0.8357	70	6	8	Pass
0.8568	68	6	8	Pass
0.8778	65	6	9	Pass
0.8988	62	6	9	Pass
0.9199	58	6	10	Pass
0.9409	56	6	10	Pass
0.9619	53	6	11	Pass
0.9829	50	6	12	Pass
1.0040	49	6	12	Pass
1.0250	47	6	12	Pass
1.0460	44	6	13	Pass
1.0670	42	6	14	Pass
1.0881	41	6	14	Pass
1.1091	39	6	15	Pass
1.1301	38	6	15	Pass
1.1511	36	6	16	Pass
1.1722	35	6	17	Pass
1.1932	34	6	17	Pass
1.2142	32	6	18	Pass

1.2353	32	6	18	Pass
1.2563	30	6	20	Pass
1.2773	29	6	20	Pass
1.2983	29	6	20	Pass
1.3194	28	6	21	Pass
1.3404	27	6	22	Pass
1.3614	26	5	19	Pass
1.3824	26	5	19	Pass
1.4035	23	4	17	Pass
1.4245	23	4	17	Pass
1.4455	21	3	14	Pass
1.4665	21	3	14	Pass
1.4876	21	3	14	Pass
1.5086	21	2	9	Pass
1.5296	21	2	9	Pass
1.5507	20	2	10	Pass
1.5717	20	2	10	Pass
1.5927	19	2	10	Pass
1.6137	18	2	11	Pass
1.6348	17	2	11	Pass
1.6558	16	2	12	Pass
1.6768	15	2	13	Pass
1.6978	14	2	14	Pass
1.7189	13	2	15	Pass
1.7399	13	2	15	Pass
1.7609	13	2	15	Pass
1.7819	12	2	16	Pass
1.8030	12	2	16	Pass
1.8240	12	2	16	Pass
1.8450	11	2	18	Pass
1.8660	10	2	20	Pass
1.8871	7	2	28	Pass
1.9081	7	2	28	Pass
1.9291	6	2	33	Pass
1.9502	6	2	33	Pass
1.9712	6	2	33	Pass
1.9922	6	2	33	Pass
2.0132	5	2	40	Pass
2.0343	5	2	40	Pass
2.0553	5	2	40	Pass
2.0763	5	2	40	Pass
2.0973	5	1	20	Pass
2.1184	5	1	20	Pass
2.1394	4	1	25	Pass
2.1604	4	1	25	Pass
2.1814	4	1	25	Pass
2.2025	4	1	25	Pass

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Model Default Modifications

Total of 0 changes have been made.

PERLND Changes

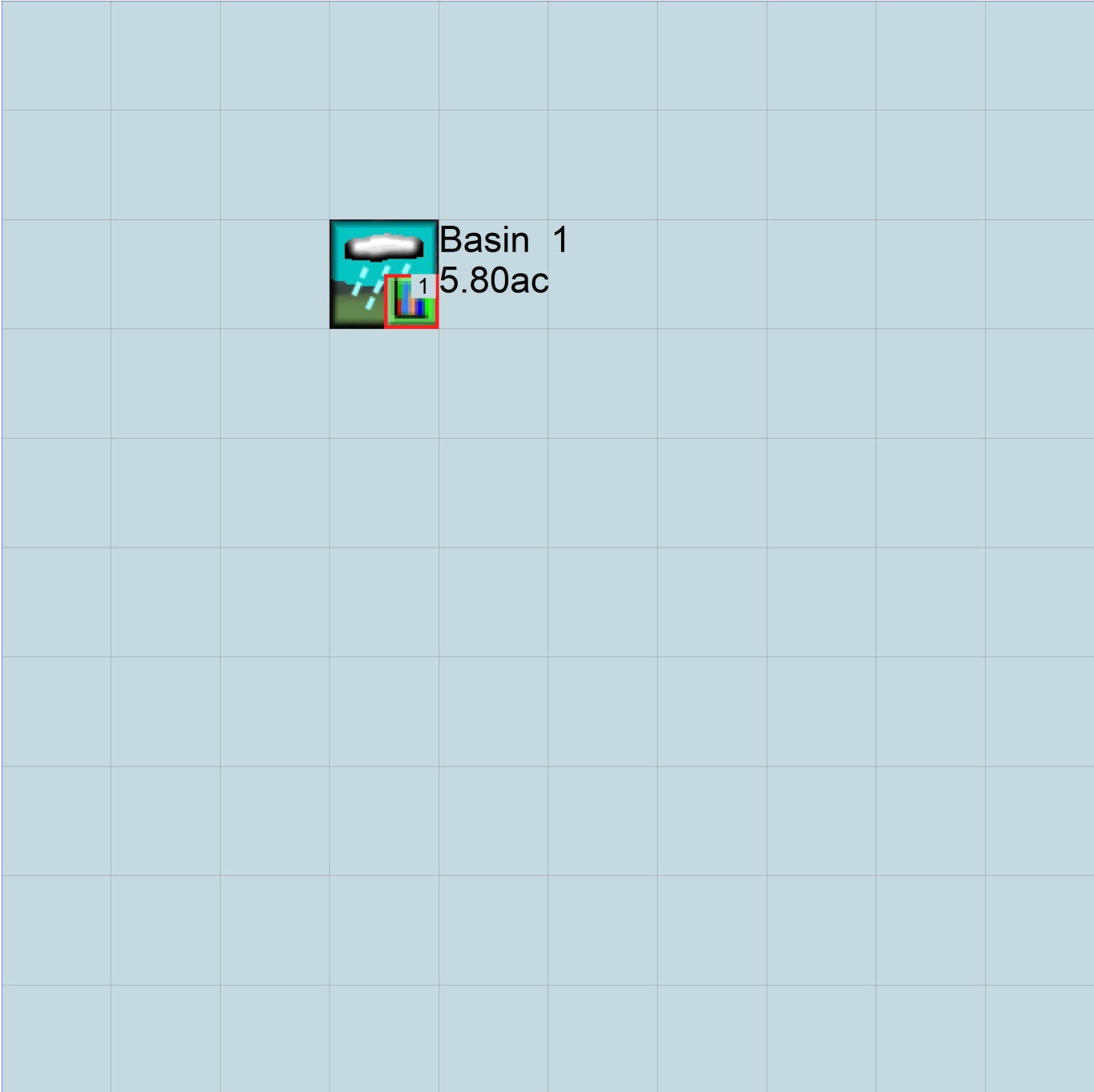
No PERLND changes have been made.

IMPLND Changes

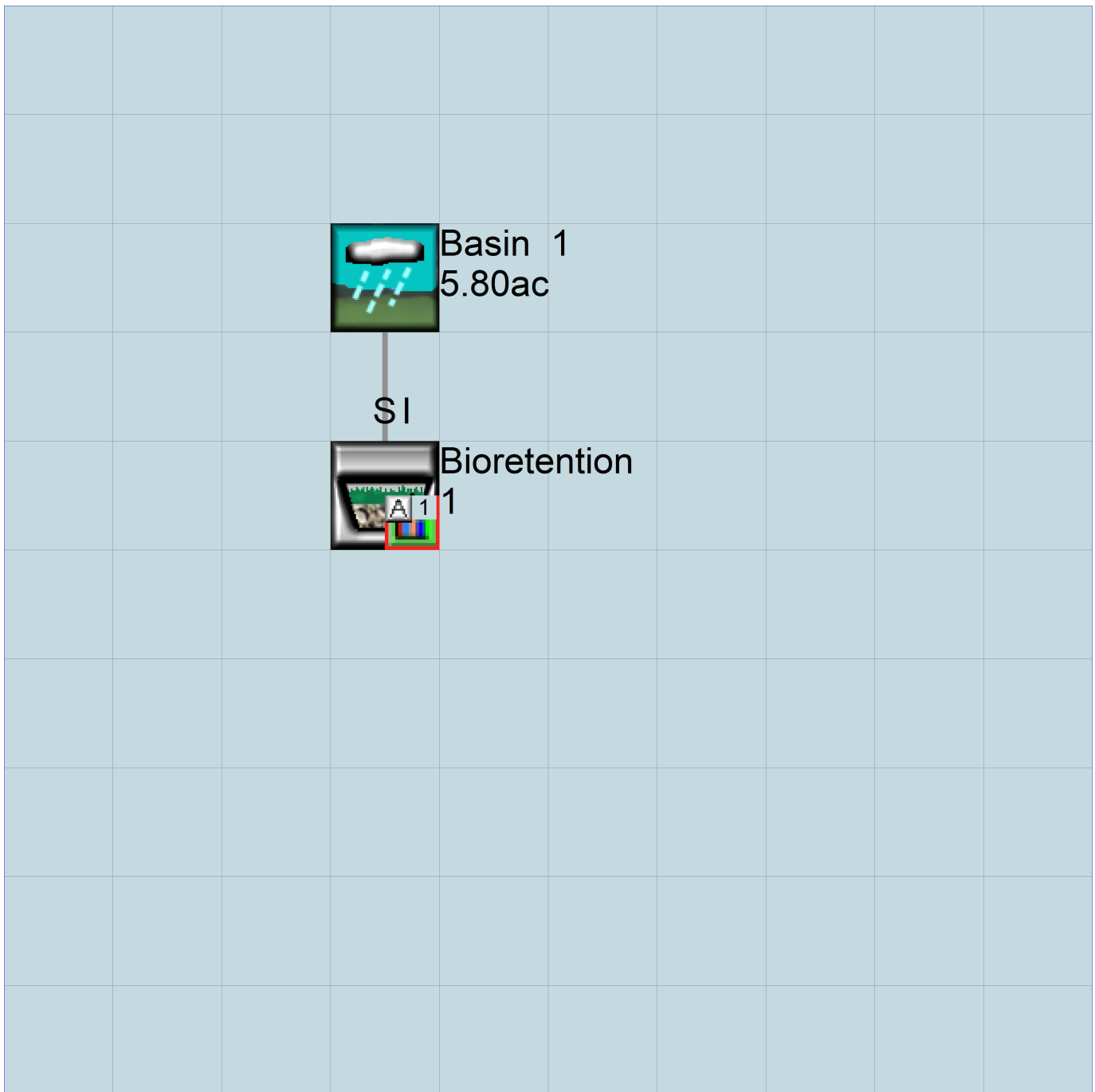
No IMPLND changes have been made.

DRAFT

Appendix
Predeveloped Schematic



Mitigated Schematic



Predeveloped UCI File

RUN

GLOBAL

```
WVHM4 model simulation
START      1963 10 01      END      2004 09 30
RUN INTERP OUTPUT LEVEL   3      0
RESUME     0 RUN         1
UNIT SYSTEM 1
```

END GLOBAL

FILES

```
<File> <Un#> <-----File Name----->***
<-ID->                                     ***
WDM      26      3733 5600 sf Quick Model.wdm
MESSU    25      Pre3733 5600 sf Quick Model.MES
          27      Pre3733 5600 sf Quick Model.L61
          28      Pre3733 5600 sf Quick Model.L62
          30      POC3733 5600 sf Quick Modell1.dat
```

END FILES

OPN SEQUENCE

```
INGRP          INDELT 00:60
  PERLND       30
  COPY         501
  DISPLY       1
```

END INGRP

END OPN SEQUENCE

DISPLY

DISPLY-INFO1

```
# - #<-----Title----->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
1   Basin 1          MAX          1   2   30   9
```

END DISPLY-INFO1

END DISPLY

COPY

TIMESERIES

```
# - # NPT NMN ***
1   1   1
501 1   1
```

END TIMESERIES

END COPY

GENER

OPCODE

```
# # OPCD ***
```

END OPCODE

PARM

```
# # K ***
```

END PARM

END GENER

PERLND

GEN-INFO

```
<PLS ><-----Name----->NBLKS  Unit-systems  Printer ***
# - #                               User  t-series  Engl Metr ***
                               in  out      ***
```

```
30      D,NatVeg,Steep          1   1   1   1   27   0
```

END GEN-INFO

*** Section PWATER***

ACTIVITY

```
<PLS > ***** Active Sections *****
# - # ATMP SNOW PWAT  SED  PST  PWG  PQAL MSTL PEST NITR PHOS TRAC ***
30   0   0   1   0   0   0   0   0   0   0   0   0
```

END ACTIVITY

PRINT-INFO

```
<PLS > ***** Print-flags ***** PIVL  PYR
# - # ATMP SNOW PWAT  SED  PST  PWG  PQAL MSTL PEST NITR PHOS TRAC *****
30   0   0   4   0   0   0   0   0   0   0   0   0   1   9
```

END PRINT-INFO

```

PWAT-PARM1
<PLS > PWATER variable monthly parameter value flags ***
# - # CSNO RTOP UZFG VCS VUZ VNN VIFW VIRG VLE INFC HWT ***
30 0 1 1 1 0 0 0 0 1 1 0
END PWAT-PARM1

PWAT-PARM2
<PLS > PWATER input info: Part 2 ***
# - # ***FOREST LZSN INFILT LSUR SLSUR KVARY AGWRC
30 0 2.7 0.02 75 0.15 2.5 0.915
END PWAT-PARM2

PWAT-PARM3
<PLS > PWATER input info: Part 3 ***
# - # ***PETMAX PETMIN INFEXP INFILD DEEPFR BASETP AGWETP
30 0 0 2 2 0 0.05 0.05
END PWAT-PARM3

PWAT-PARM4
<PLS > PWATER input info: Part 4 ***
# - # CEPSC UZSN NSUR INTFW IRC LZETP ***
30 0 0.6 0.04 1 0.3 0
END PWAT-PARM4

MON-LZETPARM
<PLS > PWATER input info: Part 3 ***
# - # JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ***
30 0.4 0.4 0.4 0.4 0.6 0.6 0.6 0.6 0.4 0.4 0.4
END MON-LZETPARM

MON-INTERCEP
<PLS > PWATER input info: Part 3 ***
# - # JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC ***
30 0.1 0.1 0.1 0.06 0.06 0.06 0.06 0.06 0.1 0.1 0.1
END MON-INTERCEP

PWAT-STATE1
<PLS > *** Initial conditions at start of simulation
ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
# - # *** CEPS SURS UZS IFWS LZS AGWS GWVS
30 0 0 0.01 0 0.4 0.01 0
END PWAT-STATE1

END PERLND

IMPLND
GEN-INFO
<PLS ><-----Name-----> Unit-systems Printer ***
# - # User t-series Engl Metr ***
in out ***

END GEN-INFO
*** Section IWATER***

ACTIVITY
<PLS > ***** Active Sections *****
# - # ATMP SNOW IWAT SLD IWG IQAL ***
END ACTIVITY

PRINT-INFO
<ILS > ***** Print-flags ***** PIVL PYR
# - # ATMP SNOW IWAT SLD IWG IQAL *****
END PRINT-INFO

IWAT-PARM1
<PLS > IWATER variable monthly parameter value flags ***
# - # CSNO RTOP VRS VNN RTLI ***
END IWAT-PARM1

IWAT-PARM2
<PLS > IWATER input info: Part 2 ***
# - # *** LSUR SLSUR NSUR RETSC
END IWAT-PARM2

```


SPEC-ACTIONS
 END SPEC-ACTIONS
 FTABLES
 END FTABLES

EXT SOURCES

<-Volume->	<Member>	SsysSgap	<--Mult-->	Tran	<-Target vols>	<-Grp>	<-Member->	***	
<Name>	#	<Name>	#	tem strg	<-factor-->	strg	<Name>	# #	***
WDM	2	PREC		ENGL	1		PERLND	1 999 EXTNL	PREC
WDM	2	PREC		ENGL	1		IMPLND	1 999 EXTNL	PREC
WDM	1	EVAP		ENGL	1		PERLND	1 999 EXTNL	PETINP
WDM	1	EVAP		ENGL	1		IMPLND	1 999 EXTNL	PETINP

END EXT SOURCES

EXT TARGETS

<-Volume->	<-Grp>	<-Member->	<--Mult-->	Tran	<-Volume->	<Member>	Tsys	Tgap	Amd	***
<Name>	#	<Name>	#	#<-factor-->	strg	<Name>	#	<Name>	tem strg	strg***
COPY	501	OUTPUT	MEAN	1 1	12.1	WDM	501	FLOW	ENGL	REPL

END EXT TARGETS

MASS-LINK

<Volume>	<-Grp>	<-Member->	<--Mult-->	<Target>	<-Grp>	<-Member->	***
<Name>	#	<Name>	#	<-factor-->	<Name>	#	#***
MASS-LINK			12				
PERLND	PWATER	SURO		0.083333	COPY	INPUT	MEAN
END MASS-LINK			12				
MASS-LINK			13				
PERLND	PWATER	IFWO		0.083333	COPY	INPUT	MEAN
END MASS-LINK			13				

END MASS-LINK

END RUN



Mitigated UCI File

RUN

GLOBAL

```
WVHM4 model simulation
START      1963 10 01      END      2004 09 30
RUN INTERP OUTPUT LEVEL   3      0
RESUME     0 RUN          1
UNIT SYSTEM 1
```

FILES

```
<File> <Un#> <-----File Name----->***
<-ID->                                     ***
WDM      26      3733 5600 sf Quick Model.wdm
MESSU    25      Mit3733 5600 sf Quick Model.MES
          27      Mit3733 5600 sf Quick Model.L61
          28      Mit3733 5600 sf Quick Model.L62
          30      POC3733 5600 sf Quick Modell.dat
```

END FILES

OPN SEQUENCE

```
INGRP          INDELT 00:60
  PERLND        1
  IMPLND        1
  GENER         2
  RCHRES        1
  RCHRES        2
  COPY          1
  COPY          501
  DISPLY        1
```

END INGRP

END OPN SEQUENCE

DISPLY

DISPLY-INFO1

```
# - #<-----Title----->***TRAN PIVL DIG1 FIL1 PYR DIG2 FIL2 YRND
1      Surface retention 1      MAX      1      2      30      9
```

END DISPLY-INFO1

END DISPLY

COPY

TIMESERIES

```
# - # NPT NMN ***
1      1      1
501    1      1
```

END TIMESERIES

END COPY

GENER

OPCODE

```
#      # OPCODE ***
2      24
```

END OPCODE

PARM

```
#      #      K ***
2      0.
```

END PARM

END GENER

PERLND

GEN-INFO

```
<PLS ><-----Name----->NBLKS Unit-systems Printer ***
# - # User t-series Engl Metr ***
          in out ***
1      A,NatVeg,Flat      1      1      1      1      27      0
```

END GEN-INFO

*** Section PWATER***

ACTIVITY

```
<PLS > ***** Active Sections *****
# - # ATMP SNOW PWAT SED PST PWG PQAL MSTL PEST NITR PHOS TRAC ***
1      0      0      1      0      0      0      0      0      0      0      0
```

END ACTIVITY

```

PRINT-INFO
<PLS > ***** Print-flags ***** PIVL  PYR
# - # ATMP SNOW PWAT  SED  PST  PWG  PQAL MSTL PEST NITR PHOS TRAC  *****
1      0      0      4      0      0      0      0      0      0      0      0      0      0      1      9
END PRINT-INFO

```

```

PWAT-PARM1
<PLS >  PWATER variable monthly parameter value flags  ***
# - # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT  ***
1      0      1      1      1      0      0      0      0      1      1      0
END PWAT-PARM1

```

```

PWAT-PARM2
<PLS >          PWATER input info: Part 2          ***
# - # ***FOREST      LZSN      INFILT      LSUR      SLSUR      KVARY      AGWRC
1      0      4.2      0.09      100      0.05      2.5      0.915
END PWAT-PARM2

```

```

PWAT-PARM3
<PLS >          PWATER input info: Part 3          ***
# - # ***PETMAX      PETMIN      INFEXP      INFILD      DEEPFR      BASETP      AGWETP
1      0      0      2      2      0      0.05      0.05
END PWAT-PARM3

```

```

PWAT-PARM4
<PLS >          PWATER input info: Part 4          ***
# - #      CEPSC      UZSN      NSUR      INTFW      IRC      LZETP  ***
1      0      0.6      0.04      1      0.3      0
END PWAT-PARM4

```

```

MON-LZETPARM
<PLS >          PWATER input info: Part 3          ***
# - #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
1      0.4  0.4  0.4  0.4  0.6  0.6  0.6  0.6  0.6  0.4  0.4  0.4
END MON-LZETPARM

```

```

MON-INTERCEP
<PLS >          PWATER input info: Part 3          ***
# - #  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP  OCT  NOV  DEC  ***
1      0.1  0.1  0.1  0.1  0.06  0.06  0.06  0.06  0.06  0.1  0.1  0.1
END MON-INTERCEP

```

```

PWAT-STATE1
<PLS > *** Initial conditions at start of simulation
          ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
# - # *** CEPS      SURS      UZS      IFWS      LZS      AGWS      GWVS
1      0      0      0.01      0      0.4      0.01      0
END PWAT-STATE1

```

END PERLND

IMPLND

```

GEN-INFO
<PLS ><-----Name----->  Unit-systems  Printer  ***
# - #                          User t-series  Engr Metr  ***
                          in  out          ***
1      IMPERVIOUS-FLAT      1      1      1      27      0
END GEN-INFO
*** Section IWATER***

```

```

ACTIVITY
<PLS > ***** Active Sections *****
# - # ATMP SNOW IWAT  SLD  IWG IQAL  ***
1      0      0      1      0      0      0
END ACTIVITY

```

```

PRINT-INFO
<ILS > ***** Print-flags ***** PIVL  PYR
# - # ATMP SNOW IWAT  SLD  IWG IQAL  *****
1      0      0      4      0      0      0      1      9
END PRINT-INFO

```

```

IWAT-PARM1
<PLS > IWATER variable monthly parameter value flags ***
# - # CSNO RTOP VRS VNN RTLI ***
1 0 0 0 0 1
END IWAT-PARM1

```

```

IWAT-PARM2
<PLS > IWATER input info: Part 2 ***
# - # *** LSUR SLSUR NSUR RETSC
1 100 0.05 0.011 0.1
END IWAT-PARM2

```

```

IWAT-PARM3
<PLS > IWATER input info: Part 3 ***
# - # ***PETMAX PETMIN
1 0 0
END IWAT-PARM3

```

```

IWAT-STATE1
<PLS > *** Initial conditions at start of simulation
# - # *** RETS SURS
1 0 0
END IWAT-STATE1

```

END IMPLND

```

SCHEMATIC
<-Source-> <--Area--> <-Target-> MBLK ***
<Name> # <-factor-> <Name> # Tbl# ***
Basin 1***
PERLND 1 1.171 RCHRES 1 2
PERLND 1 1.171 RCHRES 1 3
IMPLND 1 4.627 RCHRES 1 5

```

```

*****Routing*****
PERLND 1 1.171 COPY 1 12
IMPLND 1 4.627 COPY 1 15
PERLND 1 1.171 COPY 1 13
RCHRES 1 1 RCHRES 2 8
RCHRES 2 1 COPY 501 16
RCHRES 1 1 COPY 501 17
END SCHEMATIC

```

```

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member-> ***
<Name> # <Name> # #<-factor->strg <Name> # # <Name> # # ***
COPY 501 OUTPUT MEAN 1 1 12.1 DISPLY 1 INPUT TIMSER 1
GENER 2 OUTPUT TIMSER .0002778 RCHRES 1 EXTNL OUTDGT 1

```

```

<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member-> ***
<Name> # <Name> # #<-factor->strg <Name> # # <Name> # # ***
END NETWORK

```

```

RCHRES
GEN-INFO
RCHRES Name Nexits Unit Systems Printer ***
# - #<-----><----> User T-series Engl Metr LKFG ***
in out ***
1 Surface retentio-004 2 1 1 1 28 0 1
2 Bioretention 1 1 1 1 28 0 1
END GEN-INFO
*** Section RCHRES***

```

```

ACTIVITY
<PLS > ***** Active Sections *****
# - # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFGE PKFG PHFG ***
1 1 0 0 0 0 0 0 0 0
2 1 0 0 0 0 0 0 0 0

```

END ACTIVITY

PRINT-INFO

<PLS > ***** Print-flags ***** PIVL PYR															
#	-	#	HYDR	ADCA	CONS	HEAT	SED	GQL	OXRX	NUTR	PLNK	PHCB	PIVL	PYR	*****
1		4	0	0	0	0	0	0	0	0	0	0	1	9	
2		4	0	0	0	0	0	0	0	0	0	0	1	9	

END PRINT-INFO

HYDR-PARM1

RCHRES Flags for each HYDR Section *****																												
#	-	#	VC	A1	A2	A3	ODFVFG for each possible exit *****					ODGTFG for each possible exit *****					FUNCT for each possible exit *****											
			FG	FG	FG	FG	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1		0	1	0	0	4	5	0	0	0	0	0	1	0	0	0	2	1	2	2	2	2	2	2	2	2	2	2
2		0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2

END HYDR-PARM1

HYDR-PARM2

#	-	#	FTABNO	LEN	DELTH	STCOR	KS	DB50	*****
1		1	0.01	0.0	0.0	0.0	0.0	0.0	*****
2		2	0.03	0.0	0.0	0.0	0.0	0.0	*****

END HYDR-PARM2

HYDR-INIT

RCHRES Initial conditions for each HYDR section *****														
#	-	#	VOL	Initial value of COLIND					Initial value of OUTDGT					
			ac-ft	for each possible exit					for each possible exit					
1		0	4.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2		0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

END HYDR-INIT

END RCHRES

SPEC-ACTIONS

```

*** User-Defined Variable Quantity Lines
***      addr
***      <----->
*** kwd  varnam  optyp  opn  vari  s1 s2 s3 tp multiply  lc ls ac as agfn ***
<****> <-----> <-----> <-> <-----><-><-><-><-><-----> <-><-> <-><-> <---> ***
UVQUAN  vol2    RCHRES  2  VOL      4
UVQUAN  v2m2    GLOBAL    WORKSP  1      3
UVQUAN  vpo2    GLOBAL    WORKSP  2      3
UVQUAN  v2d2    GENER    2  K      1      3

*** User-Defined Target Variable Names
***      addr or      addr or
***      <----->      <----->
*** kwd  varnam  ct  vari  s1 s2 s3  frac  oper      vari  s1 s2 s3  frac  oper
<****> <-----><-> <-----><-><-><-> <-----> <---> <---> <-----><-><-><-> <-----> <---> <--->
UVNAME  v2m2    1  WORKSP  1      1.0  QUAN
UVNAME  vpo2    1  WORKSP  2      1.0  QUAN
UVNAME  v2d2    1  K      1      1.0  QUAN

*** opt  foplop  dcdts  yr  mo  dy  hr  mn  d  t  vn  s1 s2 s3 ac quantity  tc  ts  rp
<****><-><-----><-><-><-> <-> <-> <-> <-><-> <-----><-><-><-><-><-----> <-> <-><->
GENER   2      2      v2m2      = 38089.37

*** Compute remaining available pore space
GENER   2      vpo2      = v2m2
GENER   2      vpo2      -= vol2

*** Check to see if VPORA goes negative; if so set VPORA = 0.0
IF (vpo2 < 0.0) THEN
GENER   2      vpo2      = 0.0
END IF

*** Infiltration volume
GENER   2      v2d2      = vpo2

```

END SPEC-ACTIONS

FTABLES

FTABLE	2				
71	4				
Depth	Area	Volume	Outflow1	Velocity	Travel Time***
(ft)	(acres)	(acre-ft)	(cfs)	(ft/sec)	(Minutes)***

0.000000	0.128558	0.000000	0.000000
0.118132	0.128558	0.004556	0.000000
0.236264	0.128558	0.009112	0.000000
0.354396	0.128558	0.013668	0.000000
0.472527	0.128558	0.018224	0.004103
0.590659	0.128558	0.022780	0.010452
0.708791	0.128558	0.027336	0.019440
0.826923	0.128558	0.031892	0.020585
0.945055	0.128558	0.036448	0.021158
1.063187	0.128558	0.041004	0.022450
1.181319	0.128558	0.045561	0.024863
1.299451	0.128558	0.050117	0.026088
1.417582	0.128558	0.054673	0.026701
1.535714	0.128558	0.059229	0.027816
1.653846	0.128558	0.063785	0.028374
1.771978	0.128558	0.078136	0.029418
1.890110	0.128558	0.092488	0.031355
2.008242	0.128558	0.106839	0.032333
2.126374	0.128558	0.121191	0.032822
2.244505	0.128558	0.135542	0.033734
2.362637	0.128558	0.149894	0.035447
2.480769	0.128558	0.164246	0.036310
2.598901	0.128558	0.178597	0.037917
2.717033	0.128558	0.192949	0.038727
2.835165	0.128558	0.207300	0.040442
2.953297	0.128558	0.221652	0.042348
3.071429	0.128558	0.236003	0.043305
3.189560	0.128558	0.250355	0.044784
3.307692	0.128558	0.264707	0.046481
3.425824	0.128558	0.279058	0.048252
3.543956	0.128558	0.293410	0.050025
3.662088	0.128558	0.307761	0.051771
3.780220	0.128558	0.322113	0.053476
3.898352	0.128558	0.336464	0.055136
4.016484	0.128558	0.350816	0.056752
4.134615	0.128558	0.365167	0.058324
4.252747	0.128558	0.379519	0.059855
4.370879	0.128558	0.393871	0.061349
4.489011	0.128558	0.408222	0.062807
4.607143	0.128558	0.422574	0.064232
4.725275	0.128558	0.436925	0.065625
4.843407	0.128558	0.451277	0.066990
4.961538	0.128558	0.465628	0.068327
5.079670	0.128558	0.479980	0.069638
5.197802	0.128558	0.494331	0.070925
5.315934	0.128558	0.508683	0.072189
5.434066	0.128558	0.523035	0.073431
5.552198	0.128558	0.537386	0.074653
5.670330	0.128558	0.551738	0.075855
5.788462	0.128558	0.566089	0.077038
5.906593	0.128558	0.580441	0.078203
6.024725	0.128558	0.594792	0.079351
6.142857	0.128558	0.609144	0.080482
6.260989	0.128558	0.623495	0.081598
6.379121	0.128558	0.637847	0.082699
6.497253	0.128558	0.652199	0.083785
6.615385	0.128558	0.666550	0.084858
6.733516	0.128558	0.680902	0.085917
6.851648	0.128558	0.695253	0.086963
6.969780	0.128558	0.709605	0.087998
7.087912	0.128558	0.723956	0.089020
7.206044	0.128558	0.738308	0.090030
7.324176	0.128558	0.752659	0.091030
7.442308	0.128558	0.767011	0.092019
7.560440	0.128558	0.781363	0.092998
7.678571	0.128558	0.795714	0.093967
7.796703	0.128558	0.810066	0.094927
7.914835	0.128558	0.824417	0.095878
8.032967	0.128558	0.838769	0.096822
8.151099	0.128558	0.853120	0.097760

8.250000 0.128558 0.874412 0.112240

END FTABLE 2

FTABLE 1

23 5

Depth (ft)	Area (acres)	Volume (acre-ft)	Outflow1 (cfs)	Outflow2 (cfs)	Velocity (ft/sec)	Travel Time*** (Minutes)***
0.000000	0.128558	0.000000	0.000000	0.000000		
0.118132	0.131499	0.015361	0.000000	0.648149		
0.236264	0.134462	0.031070	0.000000	0.858263		
0.354396	0.137449	0.047130	0.000000	0.909307		
0.472527	0.140458	0.063545	0.000000	0.960352		
0.590659	0.143491	0.080317	0.000000	1.011397		
0.708791	0.146547	0.097448	0.000000	1.062441		
0.826923	0.149626	0.114942	0.000000	1.113486		
0.945055	0.152728	0.132801	0.000000	1.164531		
1.063187	0.155853	0.151027	0.000000	1.215576		
1.181319	0.159001	0.169625	0.000000	1.266620		
1.299451	0.162172	0.188595	0.000000	1.317665		
1.417582	0.165366	0.207941	0.000000	1.368710		
1.535714	0.168583	0.227666	0.214926	1.419754		
1.653846	0.171823	0.247773	1.918337	1.470799		
1.771978	0.175087	0.268263	4.494063	1.521844		
1.890110	0.178373	0.289141	7.659244	1.572888		
2.008242	0.181683	0.310408	11.22319	1.623933		
2.126374	0.185015	0.332067	15.00181	1.674978		
2.244505	0.188371	0.354121	18.80545	1.726022		
2.362637	0.191749	0.376573	22.44511	1.777067		
2.480769	0.195151	0.399426	25.74720	1.828112		
2.500000	0.195707	0.403184	28.57376	1.836421		

END FTABLE 1

END FTABLES

EXT SOURCES

<-Volume-> <Name>	<Member> #	SsysSgap tem strg	<--Mult--> #	Tran strg	<-Target <Name>	vols #	<-Grp> #	<-Member-> <Name>	*** #
WDM	2	PREC	ENGL	1	PERLND	1	999	EXTNL	PREC
WDM	2	PREC	ENGL	1	IMPLND	1	999	EXTNL	PREC
WDM	1	EVAP	ENGL	1	PERLND	1	999	EXTNL	PETINP
WDM	1	EVAP	ENGL	1	IMPLND	1	999	EXTNL	PETINP
WDM	2	PREC	ENGL	1	RCHRES	1		EXTNL	PREC
WDM	1	EVAP	ENGL	0.5	RCHRES	1		EXTNL	POTEV
WDM	1	EVAP	ENGL	0.7	RCHRES	2		EXTNL	POTEV

END EXT SOURCES

EXT TARGETS

<-Volume-> <Name>	<-Grp> #	<-Member-> <Name>	<--Mult--> #	Tran strg	<-Volume-> <Name>	<Member> #	Tsys tem	Tgap strg	Amd strg	*** ***	
RCHRES	2	HYDR	RO	1	1	WDM	1000	FLOW	ENGL	REPL	
RCHRES	2	HYDR	STAGE	1	1	WDM	1001	STAG	ENGL	REPL	
RCHRES	1	HYDR	STAGE	1	1	WDM	1002	STAG	ENGL	REPL	
RCHRES	1	HYDR	O	1	1	WDM	1003	FLOW	ENGL	REPL	
COPY	1	OUTPUT	MEAN	1	1	12.1	WDM	701	FLOW	ENGL	REPL
COPY	501	OUTPUT	MEAN	1	1	12.1	WDM	801	FLOW	ENGL	REPL

END EXT TARGETS

MASS-LINK

<Volume> <Name>	<-Grp> #	<-Member-> <Name>	<--Mult--> #	<Target> <Name>	<-Grp> #	<-Member-> <Name>	*** ***
PERLND	2	PWATER	SURO	0.083333	RCHRES	INFLOW	IVOL
PERLND	3	PWATER	IFWO	0.083333	RCHRES	INFLOW	IVOL
IMPLND	5	IWATER	SURO	0.083333	RCHRES	INFLOW	IVOL

```

      MASS-LINK          8
RCHRES   OFLOW  OVOL   2          RCHRES          INFLOW  IVOL
      END MASS-LINK          8

      MASS-LINK          12
PERLND   PWATER  SURO          0.083333          COPY          INPUT  MEAN
      END MASS-LINK          12

      MASS-LINK          13
PERLND   PWATER  IFWO          0.083333          COPY          INPUT  MEAN
      END MASS-LINK          13

      MASS-LINK          15
IMPLND   IWATER  SURO          0.083333          COPY          INPUT  MEAN
      END MASS-LINK          15

      MASS-LINK          16
RCHRES   ROFLOW          COPY          INPUT  MEAN
      END MASS-LINK          16

      MASS-LINK          17
RCHRES   OFLOW  OVOL   1          COPY          INPUT  MEAN
      END MASS-LINK          17

```

END MASS-LINK

END RUN

DRAFT

DRAFT

DRAFT

Disclaimer

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Local (360)943-0304

www.clearcreeksolutions.com

DRAFT

Drawdown Calculation for BMP

A

Project Name

Piraeus

Project No

3733

Drawdown Time:	20.1	hr
Surface Area	5600	sq ft
Underdrain Orifice Diameter: in	1.2	in
C:	0.6	
Ponding (to invert of lowest discharge opening in outlet structure):	1.5	ft
Amended Soil Depth:	1.5	ft
Permavoid Depth:	6.5	ft
Orifice Q =	0.116	cfs
Effective Depth	95.7	in
Flow Rate controlled by orifice	0.896	in/hr
Flow Rate controlled by soil media	5.000	in/hr

ATTACHMENT 3 - STRUCTURAL BMP MAINTENANCE INFORMATION

This is the cover sheet for Attachment 3.

Indicate which items are included behind this cover sheet:

Attachment	Contents	Checklist
Attachment 3a	Structural BMP Maintenance Thresholds and Actions (Required)	<input checked="" type="checkbox"/> Included See Structural BMP Maintenance Information Checklist on the back of this Attachment cover sheet.
Attachment 3b	Draft Maintenance Agreement (when applicable)	<input type="checkbox"/> Included <input checked="" type="checkbox"/> Not Applicable

Attachment 3a – Structural BMP Maintenance Thresholds and Actions

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

Preliminary Design / Planning / CEQA level submittal:

Attachment 3a must identify:

- Typical maintenance indicators and actions for proposed structural BMP(s) based on Section 7.7 of the BMP Design Manual

Attachment 3b is not required for preliminary design / planning / CEQA level submittal.

Final Design level submittal:

Attachment 3a must identify:

- Specific maintenance indicators and actions for proposed structural BMP(s). This shall be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)
- How to access the structural BMP(s) to inspect and perform maintenance
- Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- 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

Attachment 3b: For private entity operation and maintenance, Attachment 3b shall include a draft maintenance agreement in the local jurisdiction's standard format (PDP applicant to contact the City Engineer to obtain the current maintenance agreement forms).

APPENDIX 3a

BMP MAINTENANCE THRESHOLDS

BMP DESCRIPTION

BIOFILTRATION BASIN	STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT APPROVAL NO: _____ O&M RESPONSIBLE PARTY DESIGNEE: HOA
POST-CONSTRUCTION PERMANENT BMP OPERATION & MAINTENANCE PROCEDURE DETAILS	
MAINTENANCE INDICATORS	MAINTENANCE ACTION
ACCUMULATION OF SEDIMENT, LITTER, OR DEBRIS	REMOVE AND PROPERLY DISPOSE OF ACCUMULATED MATERIALS, WITHOUT DAMAGE TO THE VEGETATION
POOR VEGETATION ESTABLISHMENT	RE-SEED, RE-PLANT, OR RE-ESTABLISH VEGETATION PER ORIGINAL PLANS
OVERGROWN VEGETATION	MOW OR TRIM AS APPROPRIATE, BUT NOT LESS THAT THE DESIGN HEIGHT OF THE VEGETATION PER ORIGINAL PLANS.
EROSION DUE TO CONCENTRATED IRRIGATION FLOW	REPAIR/RE-SEED/RE-PLANT ERODED AREAS AND ADJUST THE IRRIGATION SYSTEM
EROSION DUE TO CONCENTRATED STORM WATER RUNOFF FLOW	REPAIR/RE-SEED/RE-PLANT ERODED AREAS AND MAKE APPROPRIATE CORRECTIVE MEASURES SUCH AS ADDING STONE AT FLOW ENTRY POINTS OR MINOR RE-GRADING TO RESTORE PROPER DRAINAGE ACCORDING TO THE ORIGINAL PLAN.
STANDING WATER IN BIOFILTRATION AREAS	MAKE APPROPRIATE CORRECTIVE MEASURES SUCH AS ADJUSTING IRRIGATION SYSTEM, REMOVING OBSTRUCTION OF DEBRIS OR INVASIVE VEGETATION, OR CLEANING UNDERDRAINS
OBSTRUCTED INLET OR OUTLET STRUCTURE	CLEAR OBSTRUCTIONS
DAMAGE TO INLET OR OUTLET STRUCTURE	REPAIR OR REPLACE AS APPLICABLE

MAINTENANCE EQUIPMENT AND ACCESS
USE LANDSCAPE EQUIPMENT FOR MAINTENANCE; ACCESS BMP FROM PRIVATE ROAD AT NORTHWEST CORNER OF SITE

INSPECTION FACILITATION
INSTALL 3' X 3' OUTLET RISER STRUCTURE TO PROVIDE OBSERVATION ACCESS FOR INSPECTION OF MAINTENANCE THRESHOLDS; MARKING TO BE PROVIDED ON BMP COMPONENTS TO DETERMINE HOW FULL BMP IS.

PASCO LARET SUITER
& ASSOCIATES

CIVIL ENGINEERING + LAND PLANNING + LAND SURVEYING
535 North Highway 101, Ste A, Solana Beach, CA 92075
ph 858.259.8212 | fx 858.259.4812 | plsengineering.com

ATTACHMENT 4 - COPY OF PLAN SHEETS SHOWING PERMANENT STORM WATER BMPS

This is the cover sheet for Attachment 4.

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

The plans must identify:

- Structural BMP(s) with ID numbers matching Form I-6 Summary of PDP Structural BMPs
- The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
- Details and specifications for construction of structural BMP(s)
- Signage indicating the location and boundary of structural BMP(s) as required by the [City Engineer]
- How to access the structural BMP(s) to inspect and perform maintenance
- Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- 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
- Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
- All BMPs must be fully dimensioned on the plans
- When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number shall be provided. Photocopies of general brochures are not acceptable.

MULTI-005158-2022/SUB-005159-2022/ DR-005160-2022/CDP-005161-2022 PIRAEUS POINT PIRAEUS STREET, ENCINITAS, CA

LEGEND

PROPERTY BOUNDARY	---
RIGHT-OF-WAY	====
ADJACENT PROPERTY LINE	----
LOT AREA	5,000 SF
CENTERLINE OF ROAD	----
PROPOSED SETBACKS	----
EXISTING UTILITY EASEMENT	----

EXISTING EASEMENTS

- AN EASEMENT FOR POLE LINES, UNDERGROUND CONDUITS, INGRESS AND EGRESS RIGHTS TO SAN DIEGO GAS & ELECTRIC COMPANY RECORDED OCTOBER 25, 1949 IN BOOK 3363, PAGE 154 OF OFFICIAL RECORDS.
- AN EASEMENT FOR EITHER OR BOTH POLE LINES, UNDERGROUND CONDUITS, WITH THE RIGHT OF INGRESS AND EGRESS AND INCIDENTAL PURPOSES TO TO SAN DIEGO GAS & ELECTRIC COMPANY, RECORDED JULY 06, 1926 AS BOOK 1220, PAGE 410 OF OFFICIAL RECORDS. (2 FEET IN WIDTH)

LEGAL DESCRIPTION

PARCEL A:
THAT PORTION OF LOT 2 IN SECTION 4, TOWNSHIP 13 SOUTH, RANGE 4 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 4; THENCE WESTERLY ALONG THE NORTH LINE THEREOF TO THE EASTERLY LINE OF THE LAND DESCRIBED IN DEED TO THE STATE OF CALIFORNIA, RECORDED DECEMBER 4, 1961 AS INSTRUMENT NO. 209054 OF OFFICIAL RECORDS; THENCE ALONG THE BOUNDARY LINE OF SAID LAND, SOUTH 00°30'57" EAST 51.62 FEET; THENCE SOUTH 15°22'06" EAST 500.23 FEET; THENCE SOUTH 00°08'11" EAST 205.00 FEET; THENCE SOUTH 18°13'27" EAST 125.40 FEET; THENCE NORTH 82°17'49" EAST 241.30 FEET; THENCE SOUTH 20°46'18" EAST 26.42 FEET TO THE NORTHERLY LINE OF ORPHEUS AVENUE AS SHOWN ON CREST ACRES, ACCORDING TO MAP NO. 2019, FILED IN THE OFFICE OF COUNTY RECORDER OF SAN DIEGO COUNTY; THENCE EASTERLY ALONG SAID LINE TO THE EAST LINE OF SAID SECTION; THENCE NORTHERLY ALONG SAID EAST LINE TO THE POINT OF BEGINNING.

SOLAR STATEMENT

THIS IS A SOLAR SUBDIVISION AS REQUIRED BY THE SUBDIVISION ORDINANCE. ALL PARCELS TO HAVE AT LEAST 100 SQUARE FEET OF UNOBSTRUCTED ACCESS TO SUNLIGHT ON THE BUILDABLE PORTION OF THE PARCEL.

SCOPE OF WORK

THE PROJECT SEEKS APPROVAL OF A TENTATIVE CONDOMINIUM MAP, DESIGN REVIEW PERMIT AND COASTAL DEVELOPMENT PERMIT FOR THE CONSTRUCTION OF 52 ONE-BEDROOM UNITS, 37 TWO-BEDROOM UNITS AND 60 THREE-BEDROOM UNITS FOR A TOTAL OF 149 UNITS. SITE IMPROVEMENTS WILL CONSIST OF GRADING, INSTALLATION OF PUBLIC AND PRIVATE UTILITIES, AND LANDSCAPING AND PLANTWORK ASSOCIATED WITH THIS TYPE OF USE.

GRADING/EARTHWORK

TOTAL AREA DISTURBED: ± 272,600 (6,258 AC)
CUT VOLUME: ± 83,000 C.Y.
FILL VOLUME: ± 25,400 C.Y.

EXPORT VOLUME: ± 57,600 C.Y.

MAX CUT: ± 33
MAX FILL: ± 24

EXISTING IMPERVIOUS AREA: 0 SF
PROPOSED IMPERVIOUS AREA: 202,011 SF
NET IMPERVIOUS AREA: 70,579 SF

CONDOMINIUM NOTE

PARCEL A IS A CONDOMINIUM PARCEL AS DEFINED IN SECTION 1351 AND/OR 4125 OF THE CIVIL CODE OF THE STATE OF CALIFORNIA, AND THIS MAP IS FILED PURSUANT TO THE SUBDIVISION MAP ACT. THERE WILL BE A MAXIMUM OF 149 CONDOMINIUM UNITS ON PARCEL A.

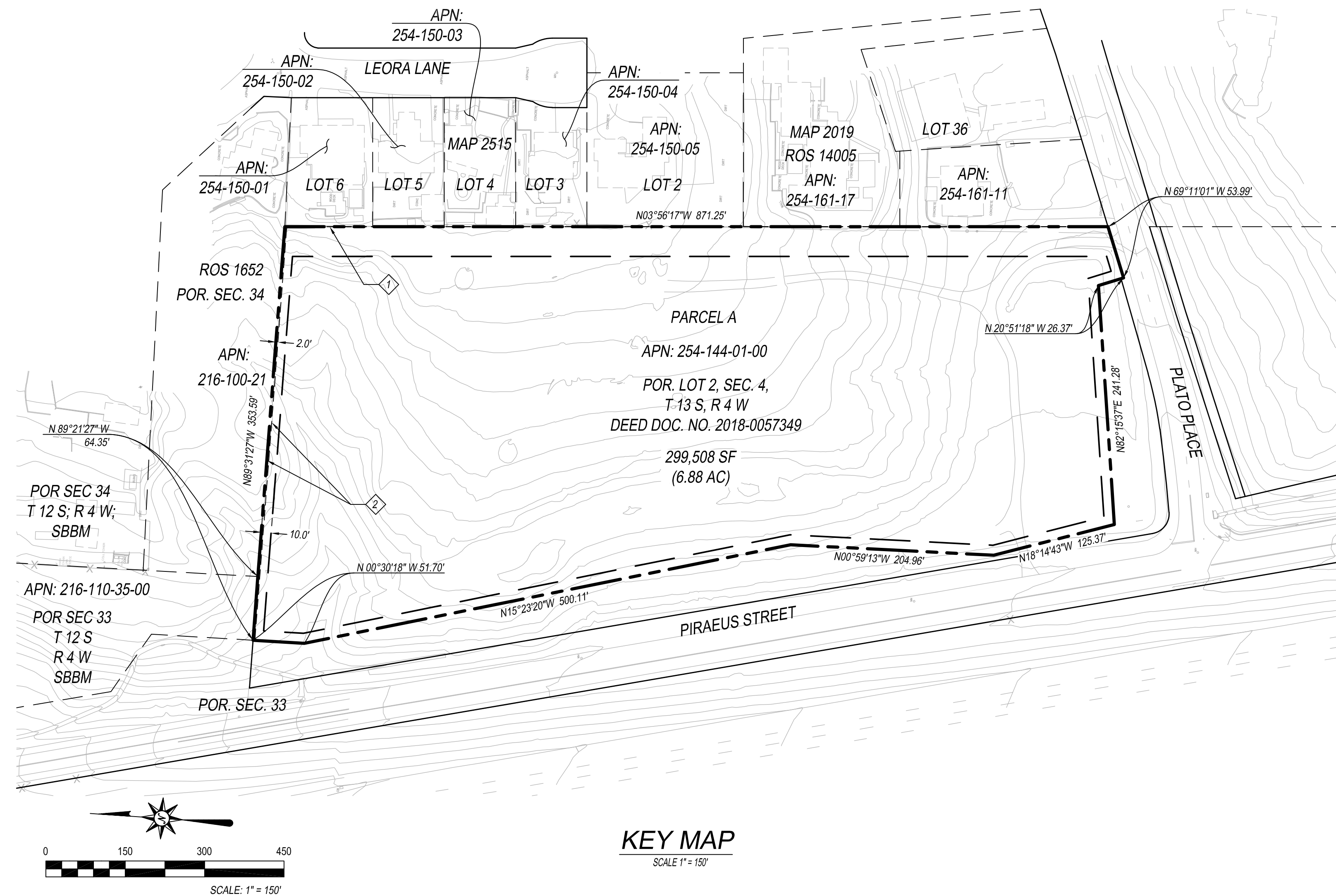
BENCHMARK

ELEVATIONS SHOWN HEREON ARE BASED ON 2.5" BRASS DISC IN THE SOUTHEAST QUADRANT OF LEUCADIA BLVD. AND ORPHEUS AVE. AS SHOWN PER ROS 18416, AS PT. NO. 1024. ELEV.: 178.543. (MSL)

CALIFORNIA LAMBERT

COORDINATES

CALIF COORD. INDEX



DENSITY CALCULATIONS

MINIMUM REQUIRED DENSITY
NET ACREAGE CALCULATIONS
TOTAL GROSS ACREAGE = 6.876 AC (299,508 SF)
TRANSMISSION LINE EASEMENT: 0.019 AC (832 SF)
NET LOT AREA: 6.857 AC (298,676 SF)

NATURAL SLOPE ADJUSTMENT FOR MINIMUM DENSITY (R-30 ZONING OVERLAY)

SLOPE%	ACREAGE	DENSITY	DWELLING UNITS
0-25	4.625	25	115.6
25-40	1.463	25/2	18.3
40+	0.769	0	0
			133.9 DUS

SLOPE ADJUSTED NET ACREAGE = 4.625 AC + 1.463 AC * 0.50 + 0.769 AC * 0.00 = 5.357 AC

MINIMUM REQUIRED DENSITY = 134 DWELLING UNITS

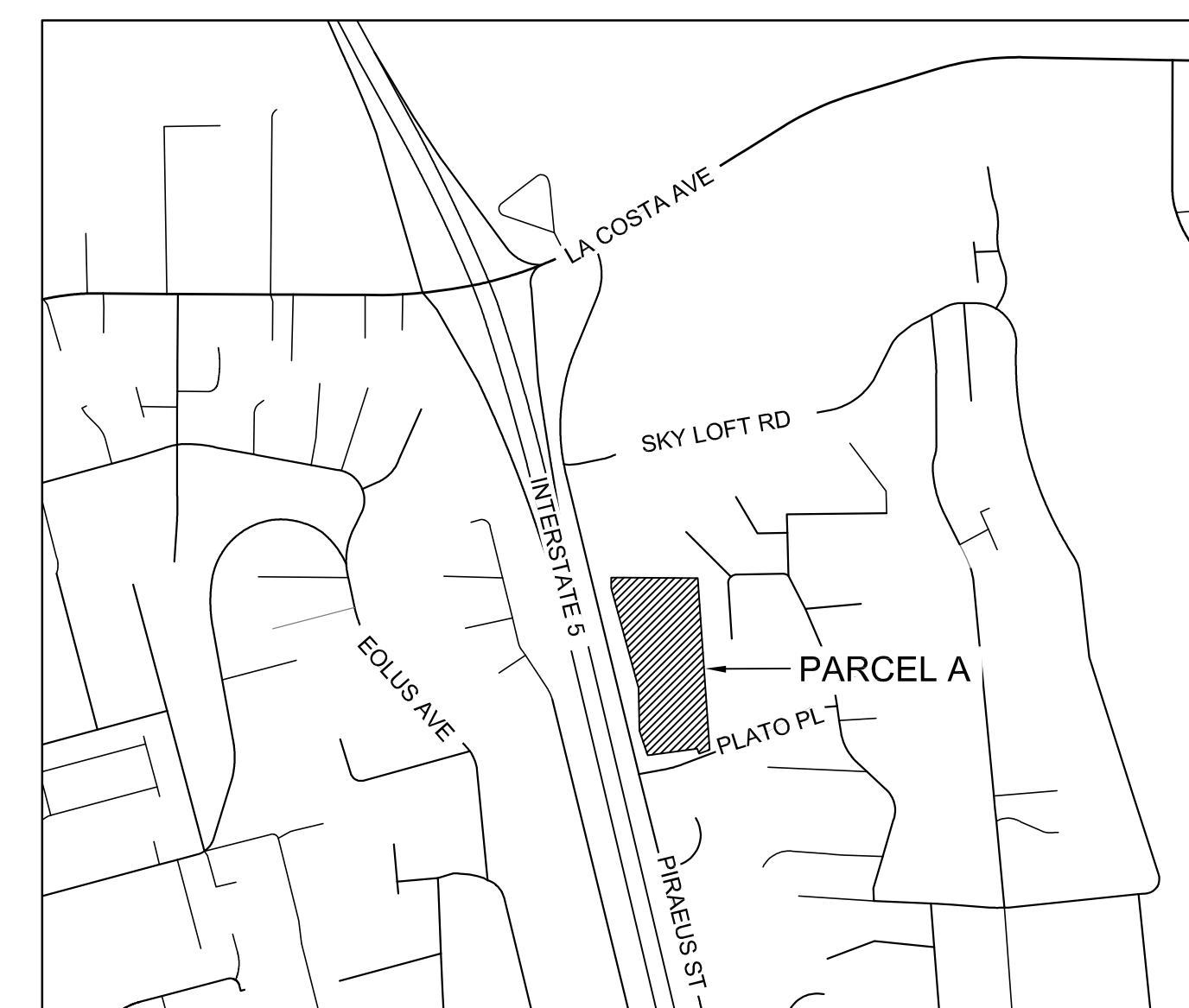
PROPOSED DENSITY = 149 DWELLING UNITS

NET LOT AREA CALCULATIONS

TOTAL GROSS ACREAGE = 6.876 AC (299,508 SF)
EXISTING/PROPOSED RIGHT-OF-WAY = 0.000 AC (0 SF)
NET LOT AREA: 6.876 AC (299,508 SF)

ZONE REQUIREMENTS	R-30	RR-2	PARCEL A (R-30)
NET LOT AREA (SF)	30,000	21,500	299,508
LOT WIDTH	100	100	341
LOT DEPTH	150	150	842
FRONT YARD SETBACK	10	30	32
STREET SIDE YARD SETBACK	10	10	12
SIDE YARD SETBACK	10	15	30
30' SETBACK PER 30.16.010 (E)(7)(e)	30	-	30
REAR YARD SETBACK	10	25	151
BUILDING FOOTPRINT	-	-	96.144
LOT COVERAGE	65%	35%	32%

■ = REQUESTED CONCESSION OR WAIVER UNDER DENSITY BONUS



VICINITY MAP
NOT TO SCALE

OWNER'S CERTIFICATE

WE HEREBY CERTIFY THAT WE ARE THE RECORDED OWNERS OF THE PROPERTY SHOWN ON THE ATTACHED TENTATIVE MAP AND THAT SAID MAP SHOWS THE ENTIRE CONTIGUOUS OWNERSHIP. I UNDERSTAND THAT PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS, OR RAILROAD RIGHTS OF WAY.

OWNER: PIRAEUS INVESTOR LLC
PIRAEUS STREET, ENCINITAS, CA 92024

DATE

SUBDIVIDER'S CERTIFICATE

THE SUBDIVIDER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE CITY OF ENCINITAS AND ITS AGENTS, OFFICERS AND EMPLOYEES FROM ANY CLAIM, ACTION OR PROCEEDING AGAINST THE CITY OF ENCINITAS OR ITS AGENTS, OFFICERS OR EMPLOYEES TO ATTACK, SET ASIDE, VOID, OR ANNUL AN APPROVAL FROM THE CITY OF ENCINITAS CONCERNING THIS SUBDIVISION WHEN SUCH ACTION IS BROUGHT WITHIN THE TIME PERIOD SPECIFIED IN GOV. CODE SECTION 66499.37. THIS CERTIFICATE IS CONDITIONED UPON THE CITY OF ENCINITAS PROVIDING PROMPT NOTICE TO THE SUBDIVIDER AS PROVIDED BY THE ACT.

SUBDIVIDER: PIRAEUS INVESTOR LLC
16465 VIA ESPRILLO, SUITE 150, SAN DIEGO, CA 92127

DATE

SITE ADDRESS

PIRAEUS STREET ENCINITAS, CA 92024

TOPOGRAPHY

PREPARED BY: PASCO LARET SUITER & ASSOCIATES
DATED: 08/07/2019

ZONING INFORMATION

TOTAL PARCELS: 1
GENERAL PLAN DESIGNATION: ENCINITAS GENERAL PLAN, R-30 OVERLAY ZONE (25-30 DU/AC)
ZONING REGULATIONS: ENCINITAS GENERAL PLAN, R-30 OVERLAY ZONE, RR-2 ZONE
HEIGHT: PER CODE 30.16.010 B6
LOT COVERAGE: 65%
MINIMUM LOT SIZE: 30,000 SF

PRESENT USE: UNDEVELOPED
PROPOSED USE: 149 FOR SALE CONDOMINIUM UNITS

MINIMUM NET LOT SIZE: 215,578 SF 4.95 AC
MAXIMUM NET LOT SIZE: 299,508 SF 6.88 AC
AVERAGE NET LOT SIZE: 257,543 SF 5.91 AC

APN (PARCEL A): 254-144-01-00

SETBACKS

	R-30	RR-2	MIN PROPOSED
FRONT YARD (FYSS):	10'	30'	32'
REAR YARD (RYSS):	10'	25'	151'
INTERIOR SIDE YARD (ISYS):	10'	15'	30'
STREET SIDE YARD (SSYS):	10'	10'	12'

ACCESS

PIRAEUS STREET

UTILITIES

WATER: SAN DIEGUITO WATER DISTRICT
FIRE: ENCINITAS FIRE PROTECTION DISTRICT
SEWER: LEUCADIA WASTE WATER DISTRICT
ELEMENTARY SCHOOL: ENCINITAS UNION SCHOOL DISTRICT
HIGH SCHOOL: SAN DIEGUITO UNION SCHOOL DISTRICT

PREPARED BY

PASCO LARET SUITER & ASSOCIATES, INC.
535 N. HIGHWAY 101, SUITE A
SOLANA BEACH, CA 92075
(858)259-8212

ENGINEER OF WORK

Tyler G. Lawson
TYLER G. LAWSON, RCE 80356
12-31-2022
DATE

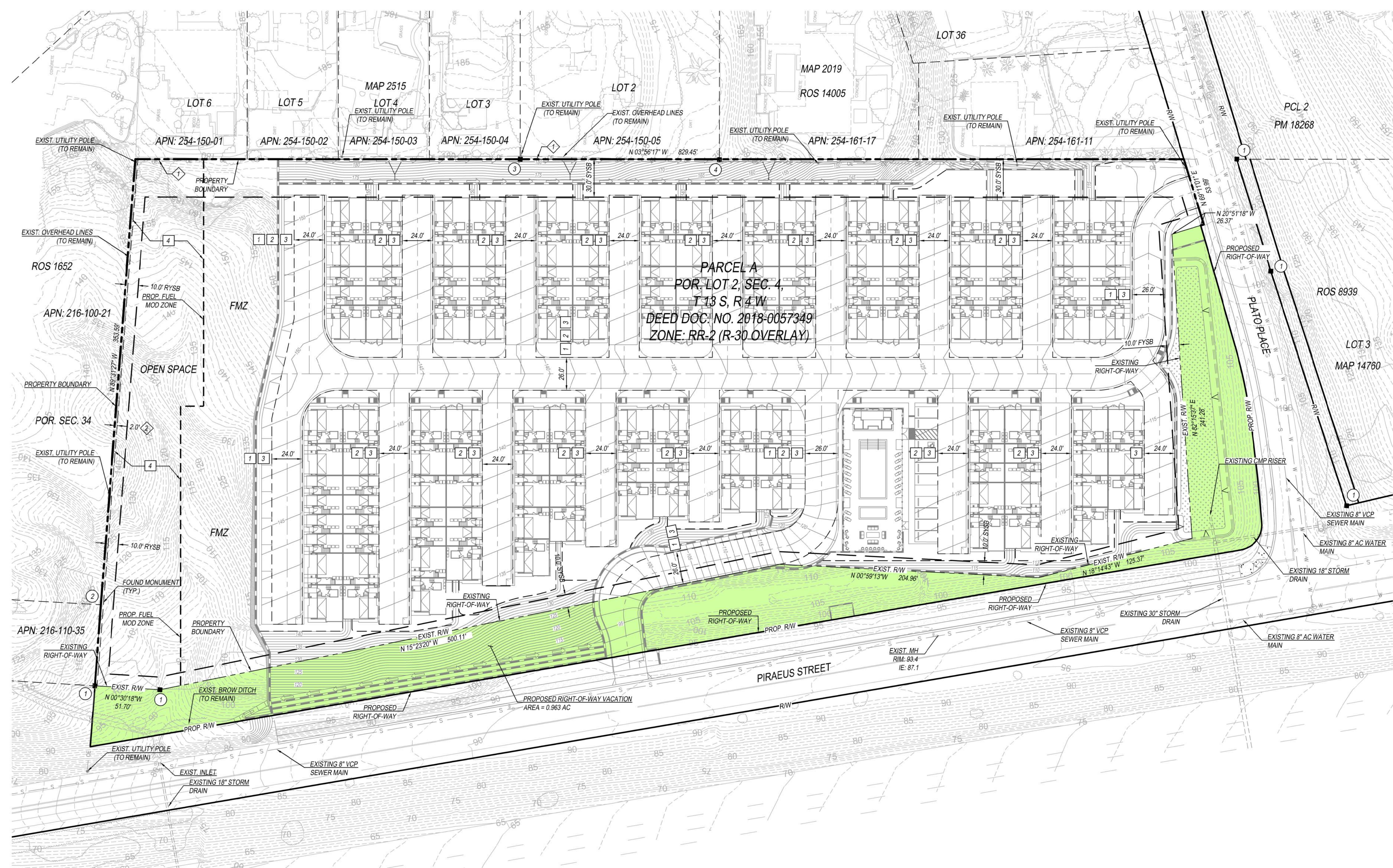


SHEET INDEX

TITLE SHEET	01
TENTATIVE MAP	02
PRELIMINARY GRADING AND DRAINAGE PLAN	03-05
PRELIMINARY UTILITY PLAN	06
DETAILS AND SECTIONS	07-08
SLOPE ANALYSIS	09
FIRE ACCESS PLAN	10

PREPARED BY:

PASCO LARET SUITER & ASSOCIATES
San Diego | Encinitas | Orange County
Phone 858.259.8212 | www.plsaengineering.com



PLAN VIEW: TENTATIVE MAP - PARCEL A
SCALE: 1" = 40'

GENERAL NOTES

- PUBLIC IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY INSPECTOR.
- EXISTING SURVEY MONUMENTS SHALL BE PROTECTED IN PLACE. ANY MONUMENT THAT IS DISTURBED OR DESTROYED SHALL BE REPLACED BY A LICENSED LAND SURVEYOR WHO SHALL FILE A CORNER RECORD OR RECORD OF SURVEY WITH THE COUNTY.
- ALL EXISTING ONSITE STRUCTURES TO BE DEMOLISHED.
- REFER TO LANDSCAPE PLAN FOR ONSITE TREES TO BE REMOVED. ADDITIONALLY, ANY LANDSCAPE WORK WITHIN THE RIGHT-OF-WAY SHALL BE MONITORED BY THE PARKS AND RECREATION DEPARTMENT.
- FOR INFORMATION ON THE PROPOSED STORM DRAIN, SEE PRELIMINARY GRADING AND DRAINAGE PLAN ON SHEETS 04-06.

ABBREVIATIONS

- | | |
|------------------------|---------------------------|
| FF = FINISH FLOOR | BW = BOTTOM OF WALL |
| FG = FINISH GRADE | HP = HIGH POINT |
| POR = PORTION OF | LP = LOW POINT |
| ROS = RECORD OF SURVEY | LA = LANDSCAPE AREA |
| FS = FINISH SURFACE | FYSB = FRONT YARD SETBACK |
| TC = TOP OF CURB | SYSB = SIDE YARD SETBACK |
| FL = FLOW LINE | RYSB = REAR YARD SETBACK |
| TG = TOP OF GRATE | FMZ = FUEL MOD ZONE |
| IE = INVERT ELEVATION | |
| TW = TOP OF WALL | |
| RW = RIGHT OF WAY | |

EASEMENTS OF RECORD

- 1 AN EASEMENT FOR POLE LINES, UNDERGROUND CONDUITS, INGRESS AND EGRESS RIGHTS TO SAN DIEGO GAS & ELECTRIC COMPANY RECORDED OCTOBER 25, 1949 IN BOOK 3363, PAGE 154 OF OFFICIAL RECORDS.
- 2 AN EASEMENT FOR EITHER OR BOTH POLE LINES, UNDERGROUND CONDUITS, WITH THE RIGHT OF INGRESS AND EGRESS AND INCIDENTAL PURPOSES TO TO SAN DIEGO GAS & ELECTRIC COMPANY, RECORDED JULY 06, 1926 AS BOOK 1220, PAGE 410 OF OFFICIAL RECORDS. (2 FEET IN WIDTH)

PROPOSED EASEMENTS

- 1 PROPOSED EMERGENCY VEHICLE ACCESS EASEMENT
- 2 PROPOSED PUBLIC SEWER EASEMENT TO THE LEUCADIA WASTE WATER DISTRICT
- 3 PROPOSED PUBLIC EASEMENT OVER PRIVATE STREETS TO THE CITY OF ENCINITAS
- 4 PROPOSED OPEN SPACE EASEMENT TO THE CITY OF ENCINITAS

FOUND MONUMENTS

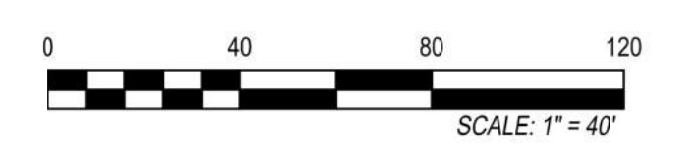
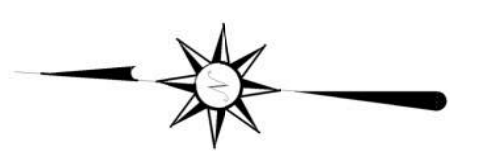
- 1 FOUND 1" IRON PIPE AND DISK "DIV HWYS" PER R4
- 2 FOUND CONCRETE MON PER ROS 528
- 3 FOUND 3/4" IRON PIPE OPEN BROKEN PER R1 DOWN 0.4'
- 4 FOUND 3/4" IRON PIPE AND DISK "RCE 26175" PER R2

REFERENCES

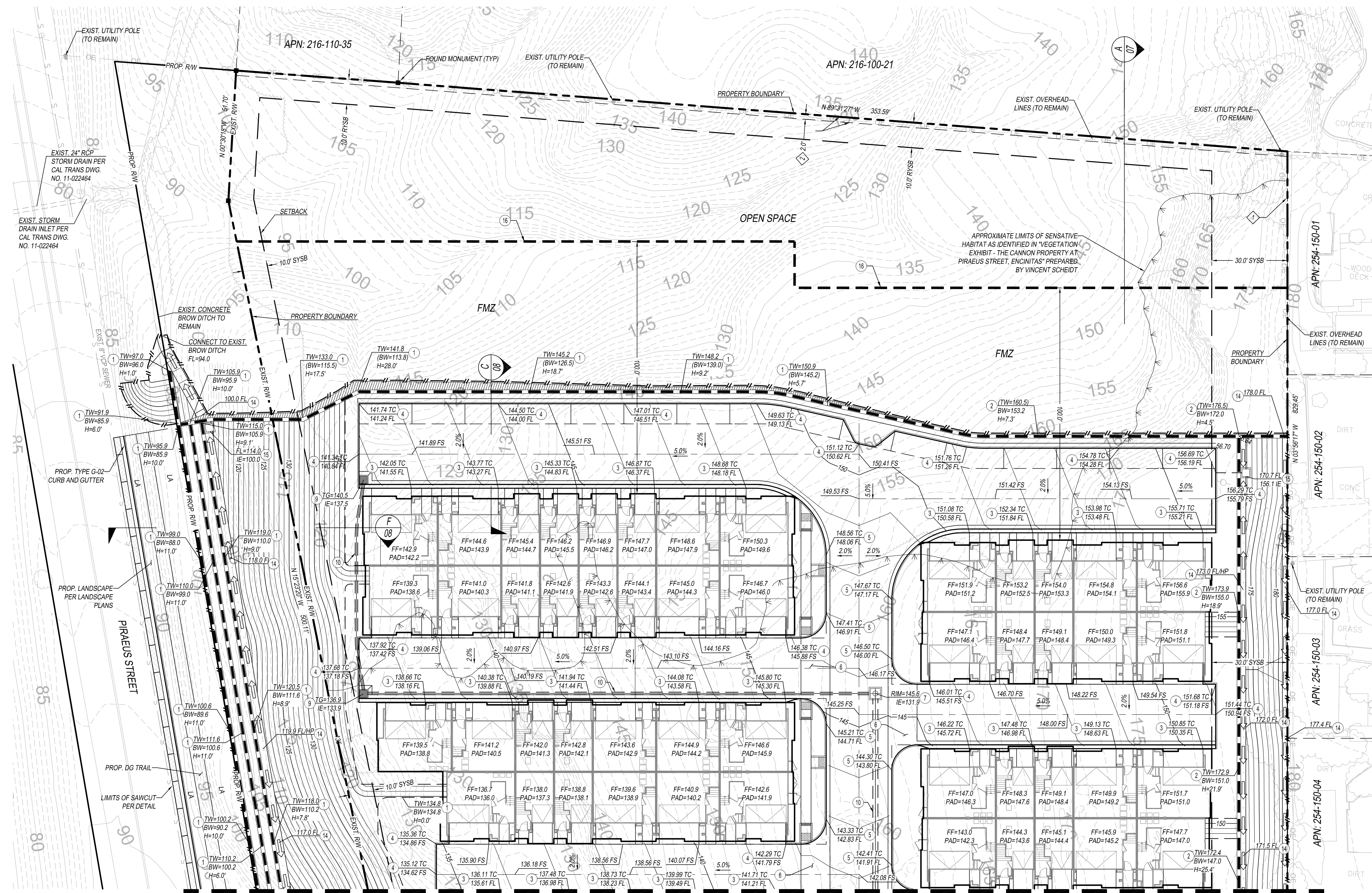
R4 - MS 775

LEGEND

- SUBDIVISION BOUNDARY
- RW --- RIGHT-OF-WAY
- EXIST. RW --- EXISTING RIGHT-OF-WAY
- PROP. RW --- PROPOSED RIGHT-OF-WAY
- PROPOSED EASEMENT
- SETBACK
- OE --- EXISTING OVERHEAD LINE
- 150 --- EXISTING CONTOUR
- S --- EXISTING SEWER MAIN
- W --- EXISTING WATER MAIN
- ● --- EXISTING UTILITY POLE
- ■ --- FOUND MONUMENT AS NOTED HEREON
- (Green Area) --- LIMITS OF RIGHT-OF-WAY VACATION (0.963 AC)



PREPARED BY
PASCO LARET SUITER & ASSOCIATES
San Diego | Encinitas | Orange County
Phone 858.259.8212 | www.plsaengineering.com



LEGEND

	SUBDIVISION BOUNDARY		PROPOSED WET WELL AND PUMP
	SETBACK		PROPOSED MSE WALL BATTER
	RIGHT-OF-WAY		PROPOSED DG PATH
	EXISTING RIGHT-OF-WAY		PROPOSED PCC SIDEWALK
	PROPOSED RIGHT-OF-WAY		EXISTING CONTOUR
	FUEL MOD ZONE		EXISTING STRIPING
	PROPOSED EASEMENT		EXISTING CURB AND GUTTER
	EXISTING EASEMENT		EXISTING OVERHEAD LINE
	PROPOSED CONTOUR		EXISTING UTILITY POLE
	PROPOSED BROW DITCH		EXISTING STORM DRAIN
	PROPOSED RETAINING WALL		EXISTING STORM DRAIN STRUCTURE
	PROPOSED HDPE STORM DRAIN (SIZE PER PLAN)		
	PROPOSED PVC STORM DRAIN		
	PROPOSED RIPRAP PER D-40		
	PROPOSED CATCH BASIN		
	PROPOSED STORM DRAIN INLET		
	PROPOSED STORM DRAIN CLEANOUT		
	PROPOSED HEADWALL PER D-34		
	PROPOSED BIOFILTRATION BASIN		
	PROPOSED LIMITS OF SAW CUT		

PRELIMINARY GRADING AND DRAINAGE PLAN
SCALE: 1" = 20'

GENERAL NOTES

- PUBLIC IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY INSPECTOR.
- EXISTING SURVEY MONUMENTS SHALL BE PROTECTED IN PLACE. ANY MONUMENT THAT IS DISTURBED OR DESTROYED SHALL BE REPLACED BY A LICENSED LAND SURVEYOR WHO SHALL FILE A CORNER RECORD OR RECORD OF SURVEY WITH THE COUNTY.
- ALL EXISTING ONSITE STRUCTURES TO BE DEMOLISHED.
- REFER TO LANDSCAPE PLAN FOR ONSITE TREES TO BE REMOVED. ADDITIONALLY, ANY LANDSCAPE WORK WITHIN THE RIGHT-OF-WAY SHALL BE MONITORED BY THE PARKS AND RECREATION DEPARTMENT.
- PRIVATE DRIVES TO BE CONSTRUCTED OF AC PAVEMENT CONSISTENT WITH GEOTECHNICAL RECOMMENDATIONS

ABBREVIATIONS

FF = FINISH FLOOR	BW = BOTTOM OF WALL
FG = FINISH GRADE	HP = HIGH POINT
POR = PORTION OF	LP = LOW POINT
ROS = RECORD OF SURVEY	LA = LANDSCAPE AREA
FS = FINISH SURFACE	FYSB = FRONT YARD SETBACK
TC = TOP OF CURB	SYSB = SIDE YARD SETBACK
FL = FLOW LINE	RYSB = REAR YARD SETBACK
TG = TOP OF GRATE	APN = ASSESSORS PARCEL NUMBER
IE = INVERT ELEVATION	FMZ = FUEL MOD ZONE
TW = TOP OF WALL	
RW = RIGHT OF WAY	

CONSTRUCTION NOTES

- PROPOSED MSE WALL
- PROPOSED SHORING WALL
- PROPOSED MODIFIED ROLLED CURB (SEE DETAIL SHEET 8)
- PROPOSED 6" CURB PER G-01
- PROPOSED 6" CURB AND GUTTER PER G-02
- PROPOSED CROSS GUTTER PER G-12
- PROPOSED TYPE-A STORM DRAIN CLEANOUT PER D-09
- PROPOSED TYPE-B STORM DRAIN INLET PER D-02
- PROPOSED 36"x36" CATCH BASIN (BROOKS OR APPROVED EQUAL)
- PROPOSED HDPE STORM DRAIN
- PROPOSED HEADWALL PER D-34
- PROPOSED RIP RAP PER D-40 (SIZE PER PLAN)
- PROPOSED BIOFILTRATION BASIN (SEE DETAIL ON SHEET 8)
- PROPOSED TYPE-D BROW DITCH PER D-75
- PROPOSED TYPE-F CATCH BASIN PER (D-07)
- PROPOSED FUEL MOD ZONE
- SIGHT VISIBILITY TRIANGLE
- PROPOSED CMU RETAINING WALL
- PROPOSED WET WELL AND PUMP
- PROPOSED FORCE MAIN
- PROPOSED D-25 CURB OUTLET

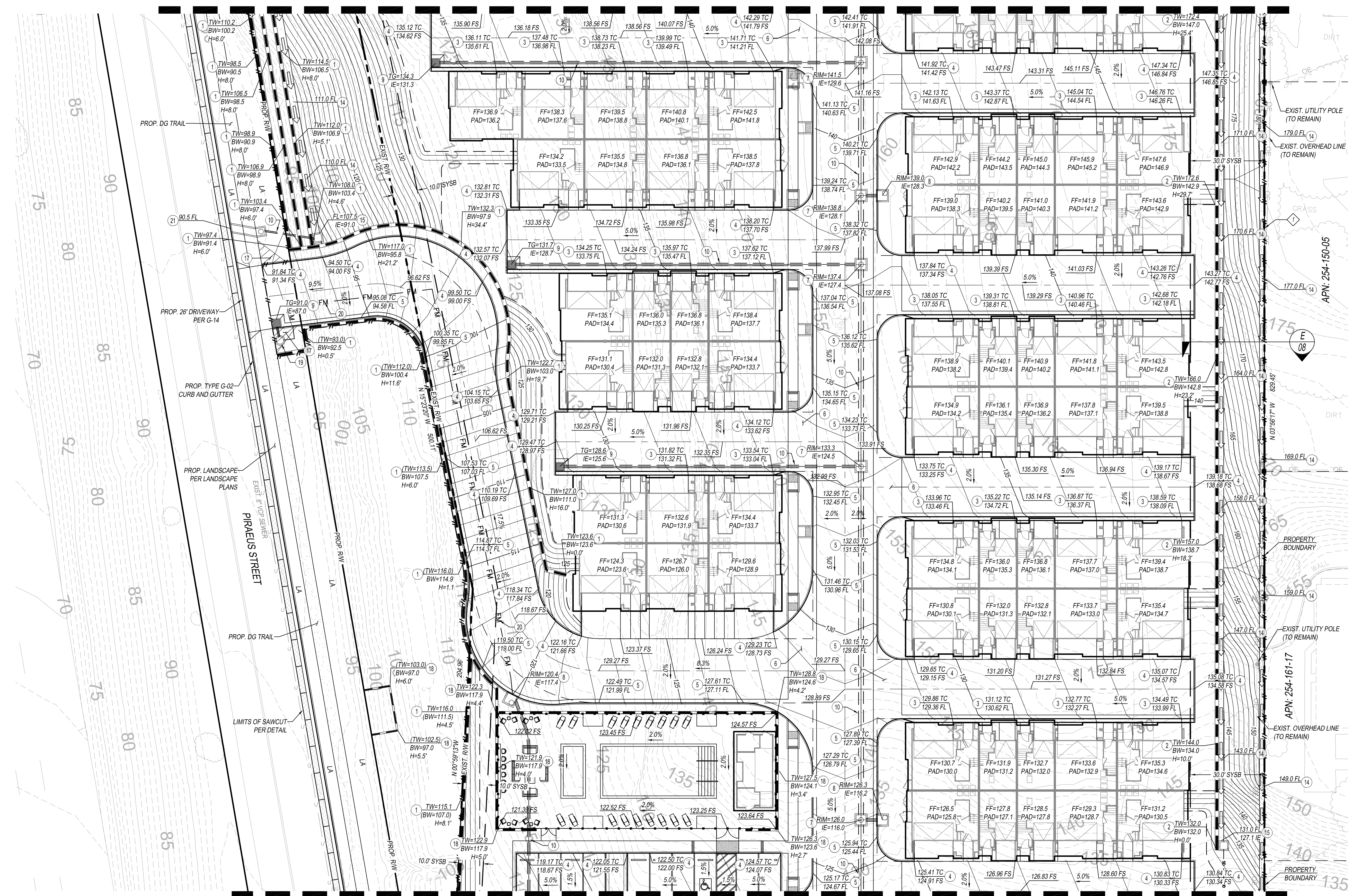
EASEMENTS OF RECORD

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MATCHLINE - SEE SHEET 4



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PRELIMINARY GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

MATCHLINE - SEE SHEET 5

LEGEND

	SUBDIVISION BOUNDARY
	SETBACK
	RIGHT-OF-WAY
	EXIST. RIGHT-OF-WAY
	PROP. RIGHT-OF-WAY
	FUEL MOD ZONE
	PROPOSED EASEMENT
	EXISTING EASEMENT
	PROPOSED CONTOUR
	PROPOSED BROW DITCH
	PROPOSED RETAINING WALL
	PROPOSED HDPE STORM DRAIN (SIZE PER PLAN)

	PROPOSED SLOPE
	PROPOSED FORCE MAIN
	LIMITS OF DISTURBANCE
	PROPOSED PVC STORM DRAIN
	PROPOSED RIPRAP PER D-40
	PROPOSED CATCH BASIN
	PROPOSED STORM DRAIN INLET
	PROPOSED STORM DRAIN CLEANOUT
	PROPOSED HEADWALL PER D-34
	PROPOSED BIOFILTRATION BASIN
	PROPOSED LIMITS OF SAW CUT

	PROPOSED WET WELL AND PUMP
	PROPOSED MSE WALL BATTER
	PROPOSED PCC SIDEWALK
	EXISTING CONTOUR
	EXISTING STRIPING
	EXISTING CURB AND GUTTER
	EXISTING OVERHEAD LINE
	EXISTING UTILITY POLE
	EXISTING STORM DRAIN
	EXISTING STORM DRAIN STRUCTURE

(100.0) EXISTING GROUND ELEVATION
 FOUND MONUMENT AS NOTED ON SHEET 2

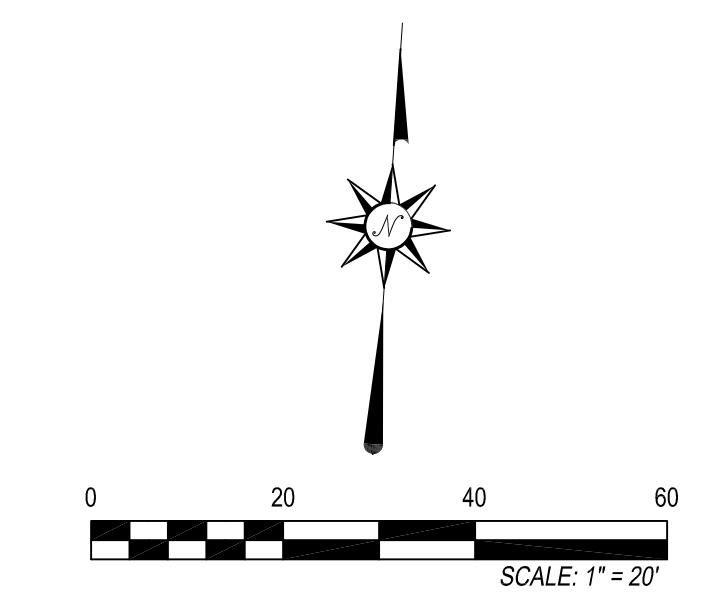
- GENERAL NOTES**
- PUBLIC IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY INSPECTOR.
 - EXISTING SURVEY MONUMENTS SHALL BE PROTECTED IN PLACE. ANY MONUMENT THAT IS DISTURBED OR DESTROYED SHALL BE REPLACED BY A LICENSED LAND SURVEYOR WHO SHALL FILE A CORNER RECORD OR RECORD OF SURVEY WITH THE COUNTY.
 - ALL EXISTING ONSITE STRUCTURES TO BE DEMOLISHED.
 - REFER TO LANDSCAPE PLAN FOR ONSITE TREES TO BE REMOVED. ADDITIONALLY, ANY LANDSCAPE WORK WITHIN THE RIGHT-OF-WAY SHALL BE MONITORED BY THE PARKS AND RECREATION DEPARTMENT.
 - PRIVATE DRIVES TO BE CONSTRUCTED OF AC PAVEMENT CONSISTENT WITH GEOTECHNICAL RECOMMENDATIONS

ABBREVIATIONS

FF = FINISH FLOOR	BW = BOTTOM OF WALL
FG = FINISH GRADE	HP = HIGH POINT
POR = PORTION	LP = LOW POINT
ROS = RECORD OF SURVEY	LA = LANDSCAPE AREA
FS = FINISH SURFACE	FYSB = FRONT YARD SETBACK
TC = TOP OF CURB	SYSB = SIDE YARD SETBACK
FL = FLOW LINE	RYSB = REAR YARD SETBACK
TG = TOP OF GRATE	APN = ASSESSORS PARCEL NUMBER
IE = INVERT ELEVATION	
TW = TOP OF WALL	
RW = RIGHT OF WAY	

- CONSTRUCTION NOTES**
- PROPOSED MSE WALL
 - PROPOSED SHORING WALL
 - PROPOSED MODIFIED ROLLED CURB (SEE DETAIL SHEET 8)
 - PROPOSED 6" CURB PER G-01
 - PROPOSED 6" CURB AND GUTTER PER G-02
 - PROPOSED CROSS GUTTER PER G-12
 - PROPOSED TYPE-A STORM DRAIN CLEANOUT PER D-09
 - PROPOSED TYPE-B STORM DRAIN INLET PER D-02
 - PROPOSED 36"x36" CATCH BASIN (BROOKS OR APPROVED EQUAL)
 - PROPOSED HDPE STORM DRAIN
 - PROPOSED HEADWALL PER D-34
 - PROPOSED RIP RAP PER D-40 (SIZE PER PLAN)
 - PROPOSED BIOFILTRATION BASIN (SEE DETAIL ON SHEET 8)
 - PROPOSED TYPE-D BROW DITCH PER D-75
 - PROPOSED TYPE-F CATCH BASIN PER (D-07)
 - PROPOSED FUEL MOD ZONE
 - SIGHT VISIBILITY TRIANGLE
 - PROPOSED CMU RETAINING WALL
 - PROPOSED WET WELL AND PUMP
 - PROPOSED FORCE MAIN
 - PROPOSED D-25 CURB OUTLET

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ABBREVIATIONS

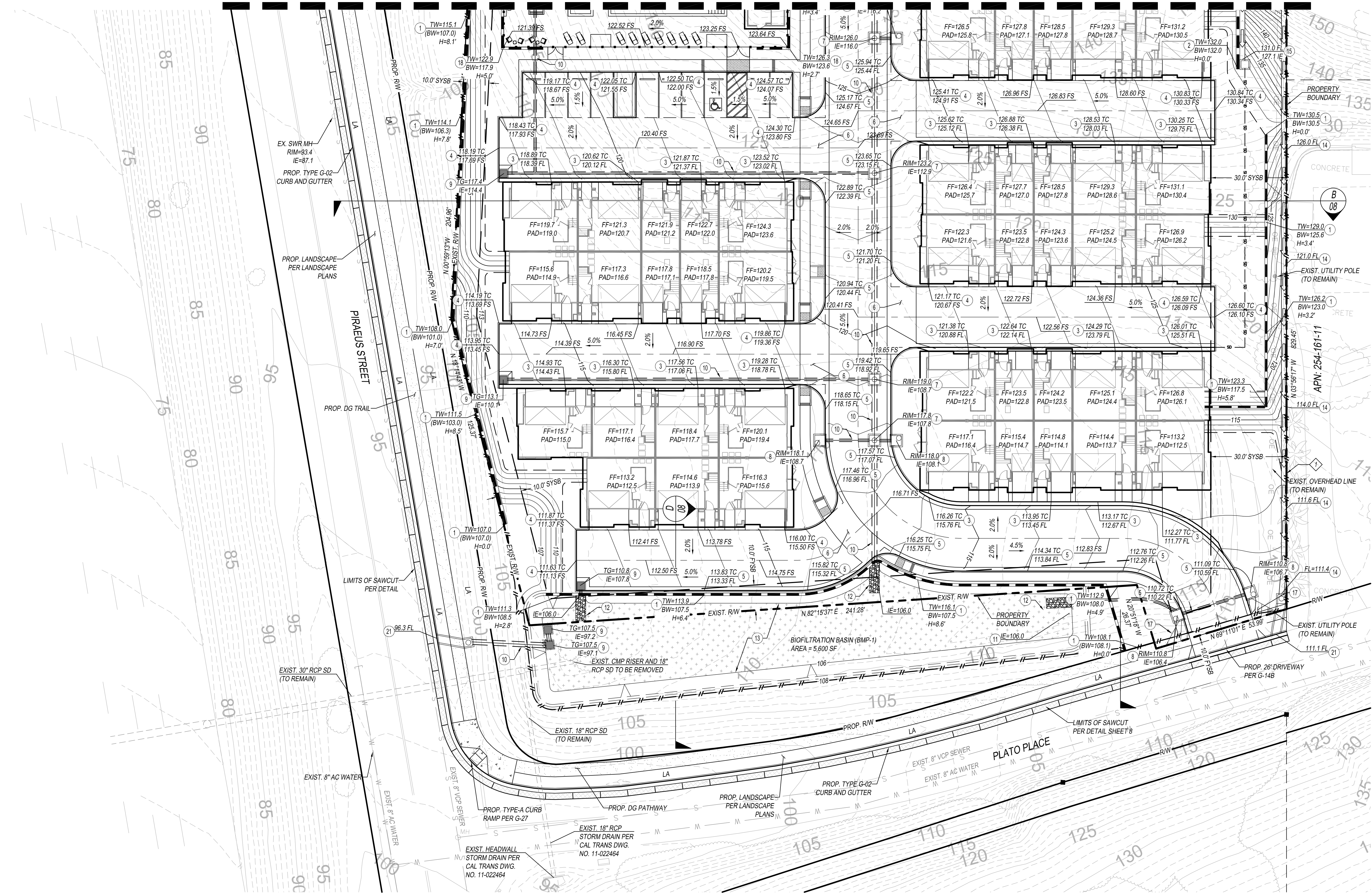
- | | |
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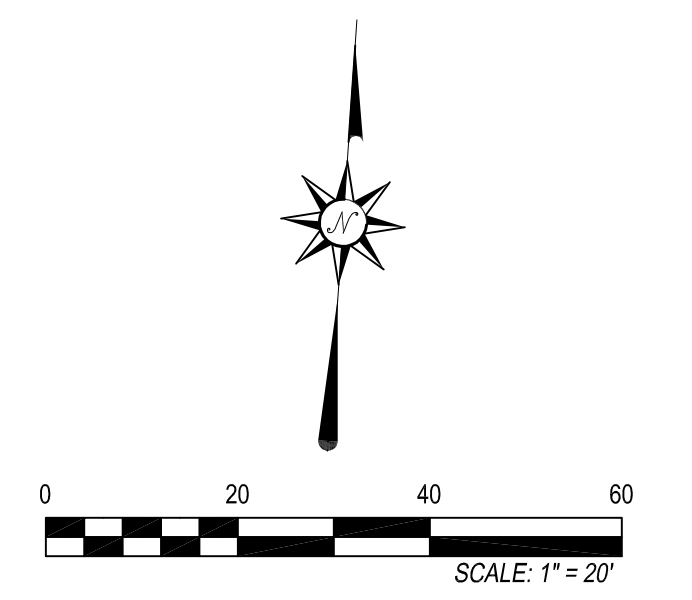


PRELIMINARY GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'

LEGEND

- | | | | |
|---|-------------------------------|------------------------------------|------------------------------------|
| --- SUBDIVISION BOUNDARY | PROPOSED SLOPE | PROPOSED WET WELL AND PUMP | (100.0) EXISTING GROUND ELEVATION |
| --- SETBACK | FM PROPOSED FORCE MAIN | PROPOSED MSE WALL BATTER | FOUND MONUMENT AS NOTED ON SHEET 2 |
| --- RIGHT-OF-WAY | --- LIMITS OF DISTURBANCE | PROPOSED DG PATH | |
| --- EXIST. R/W | --- PROPOSED PVC STORM DRAIN | PROPOSED PCC SIDEWALK | |
| --- PROP. R/W | --- PROPOSED RIPRAP PER D-40 | --- EXISTING CONTOUR | |
| --- FUEL MOD ZONE | PROPOSED CATCH BASIN | --- EXISTING STRIPING | |
| --- PROPOSED EASEMENT | PROPOSED STORM DRAIN INLET | --- EXISTING CURB AND GUTTER | |
| --- EXISTING EASEMENT | PROPOSED STORM DRAIN CLEANOUT | OE EXISTING OVERHEAD LINE | |
| --- 100 PROPOSED CONTOUR | PROPOSED HEADWALL PER D-34 | --- EXISTING UTILITY POLE | |
| --- PROPOSED BROW DITCH | PROPOSED BIOFILTRATION BASIN | --- EXISTING STORM DRAIN | |
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