DOCKETED	
Docket Number:	26-OPT-02
Project Title:	Seahawk Battery Energy Storage System
TN #:	270270
Document Title:	Section 3-15 Appendices Part 1
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	5/27/2026 10:42:32 AM
Docketed Date:	5/27/2026

Appendix 3.15A

Downstream Impact Report

Downstream Impact Report

Seahawk Battery Storage
90 Minto Road, Watsonville, CA
APN 051-101-77

Client:

New Leaf Energy, Inc.

August 6, 2025

By:

C2G / Civil Consultants Group, Inc.
4444 Scotts Valley Drive, Suite 6
Scotts Valley, CA 95066
(831) 438-4420

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LIST OF FIGURES

PROJECT SUMMARY

INTRODUCTION

According to the Santa Cruz County design criteria, this development is considered a large project because it adds and or replaces more than 5000 square feet of impervious area. Due to this classification the following downstream assessment has been prepared.

The proposed development of a battery storage facility, at 90 Minto Road, will increase the impervious area by installing a gravel fire access road, concrete pads to support the proposed equipment, concrete gutters to direct stormwater and a gravel base in and around the battery storage area.

VICINITY MAP

90 Minto Road., Watsonville, CA; see Figure 1, below.

FIGURE 1: VICINITY MAP

EXISTING DRAINAGE PATTERNS

The project parcel (APN 051-101-77) is approximately 37-acres and drains northwest to southeast. In addition, there is a ridge that separates drainage from the north and south sides of the parcel into 2 distinct onsite valleys. These valleys continue to drain easterly crossing at least one other parcel before entering the high-water elevation of the seasonal lake (at least 500 feet from project area), known as College Lake.

College Lake is a seasonal lake located in a topographic depression along the Zayante-Vergeles Fault zone. It receives inflows from several tributaries and drains into Salsipuedes Creek, which is a tributary of the Pajaro River. The College Lake watershed spans approximately 11,000 acres, encompassing a mix of rangeland, rural residential areas, and agricultural lands.

About 2,000 feet downstream of College Lake, surface water from Corralitos Creek enters Salsipuedes Creek. During wet seasons, the flow direction in the stretch of Salsipuedes Creek between College Lake and its confluence with Corralitos Creek can reverse. When this occurs, water can flow from Salsipuedes Creek back into College Lake. The flow direction and magnitude in this reach of Salsipuedes Creek are influenced by several factors, including the water level of College Lake, the flow rates in both Corralitos and Salsipuedes Creeks, and the elevation of the weir at College Lake's outlet (headwall elevation of 60.1 feet NAVD88). In wetter years, additional surface water from Pinto Lake can flow into this reach of Salsipuedes Creek via Pinto Creek, a drainage channel that directs overflow from Pinto Lake into Salsipuedes Creek downstream of College Lake, further influencing flow dynamics in the area.

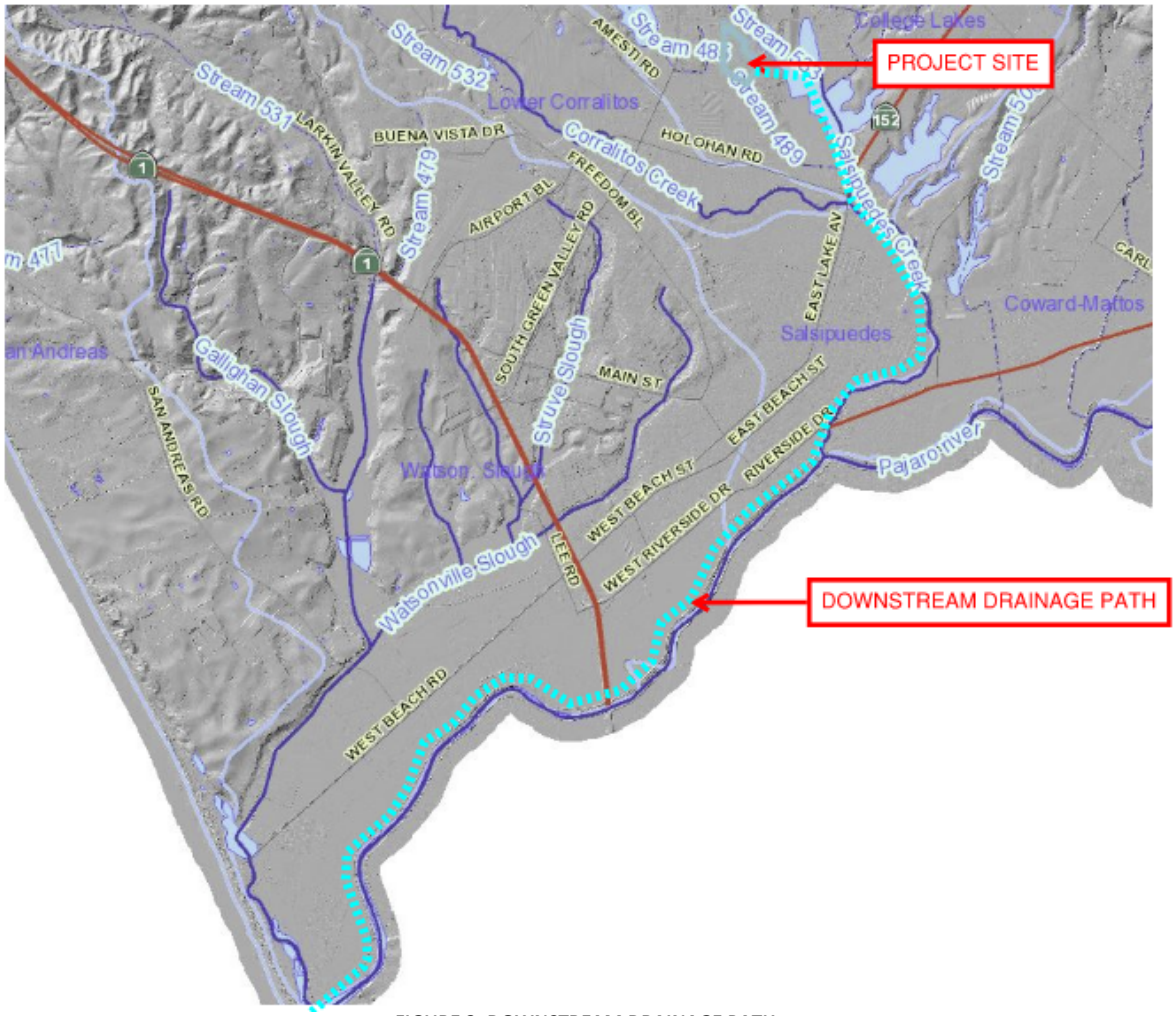


FIGURE 2: DOWNSTREAM DRAINAGE PATH

PROPOSED DRAINAGE

The proposed development consists of the installation of battery energy storage equipment. The energy storage modules will be installed in purpose built enclosures with integrated fire suppression and cooling systems. Access to these modules is provided with a 20'-wide fire access road (aggregate base rock) and gravel surrounding each of the concrete mounting pads.

The project is designed to capture of the majority of common pollutants by directing runoff from impervious surfaces into the proposed bio-retention areas which are designed to provide treatment and stormwater detention. Such pollutants consist of oils from proposed concrete and gravel roads. Site design measures used to minimize potential for stormwater pollution include minimizing impervious areas, in particular areas; clustering structures and pavement, and provision of landscaped areas. The remaining potential sources of pollution include vehicle parking areas (potential for leaks, cleaning compounds, etc.), offsite run-on areas (misc. pollutants), landscaped areas (potential for fertilizers, pesticides, etc.).

Based upon the topographic survey, C2G identified four areas that drain onto the project area. These upstream run on areas include portions that are both on site and off site and require a bypass drainage system to redirect stormwater around the proposed improvements and associated stormwater mitigation features.

The four areas are shown on sheet C 4.1.

Each of the upstream run on areas has been equipped with a storm water bypass system to safely convey the water around the project site. In Upstream Runon #1, there is a low point South of the proposed improvements. Stormwater for this area is collected into an inlet, surrounded by rip-rap to keep sediment from entering, And piped around the southeast corner of the project site to the point of release, east of the proposed improvements. Upstream Runon #2, is collected in a new concrete v-ditch and joins the bypass system from #1. Upstream Runon #3 & #4 are upstream from the secondary access road. Runoff from both of these areas sheet flow to a new swale just above the secondary access road. This runoff bypasses the treatment for DMA C and is released in a location that mimics the pre-development runoff location.

The area of work consists of two separate drainage management areas (DMAs). These areas are shown on sheet C 4.1. Each of the DMA's have a BMP to mitigate for stormwater runoff. As noted earlier, the BMP's used for this project our biofiltration areas. Due to the findings of the project geotechnical engineer, which confirms soil data from the NRCS website, retention is infeasible at this site.

Each of the proposed biofiltration areas are sized meet the 4% rule for treatment as well as the detention volume specified in figure SWM-17. After the onsite stormwater mitigation, drainage leaves

the project site at the same location as the predevelopment condition. No diversions are being proposed in this project. See Figure 6 (below) for existing drainage patterns across the downstream property.

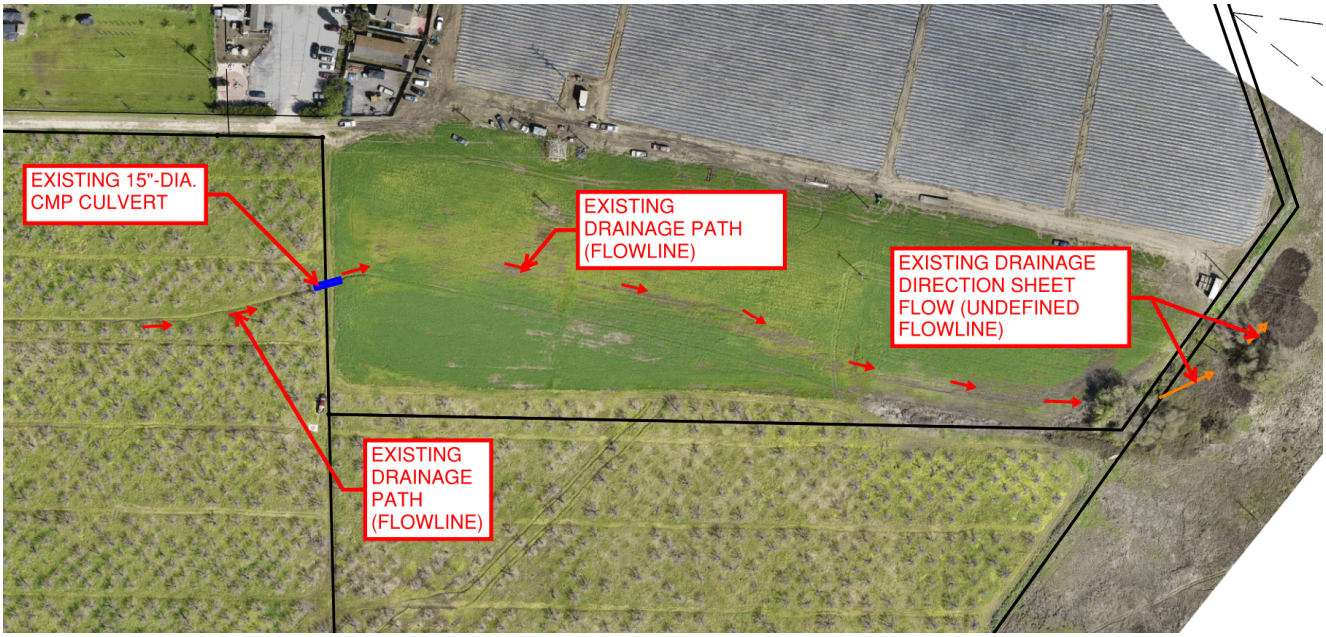


FIGURE 3: EXISTING DRAINAGE PATTERNS ON DOWNSTREAM PROPERTY

The existing drainage path on the downstream property consists of a swale that conveys a large portion of the 24-acre parcel's drainage to the east, toward College Lakes. The swale is not clearly defined but at a minimum, consists of a 2% traveled slope that is approximately 1' deep. Calculations for the flow of storm water across the easterly property have been provided using the proposed impervious surface areas. See below:

$$Q=CIA$$

Runoff Coefficient (***C***) = 0.78

Intensity (***I***) = 1.85 in./hr. *(10-year @ 10 minute duration per SWM-3 / P60 = 1.35)*

= 2.50 in./hr. *(50-year @ 10 minute duration per SWM-3 / P60 = 1.35)*

= 2.78 in./hr. *(100-year @ 10 minute duration per SWM-3 / P60 = 1.35)*

Area (***A***) = 245,974 sq. ft. / 5.647 acres

Q(10-yr) = 8.149 CFS

Q(50-yr) = 11.012 CFS

Q(100-yr) = 12.245 CFS

The flow rates noted above are less than the flow rate of the swale at full capacity, demonstrating that the 10-, 50- & 100-year storm event can be fully contained within the existing swale. Refer to Channel Report on the next page.

In evaluating the existing 15-inch CMP culvert, C2G has both visually inspected the pipe and have provided some calculations determining it's capacity.

In reviewing the condition of the existing 15-inch Culvert, damage has been identified at the pipe entrance, and appears to be smashed from the weight of a tractor and/or equipment and should be repaired by cutting and removing a portion of pipe, installing a coupler and extending a new potion of 15-inch pipe at the entrance of the pipe.

In reviewing the outfall of the 15-inch pipe, there appeared to be no damage and/or lack of maintenance (See image below). The pipe appeared to be clear of any debris and aligned with the existing flowline of the downstream swale. There was also no sign of erosion at or around the outfall. There are no recommendations for improvements at the outfall of the 15-inch pipe.

FIGURE 4: EXISTING 15-INCH CMP CULVERT

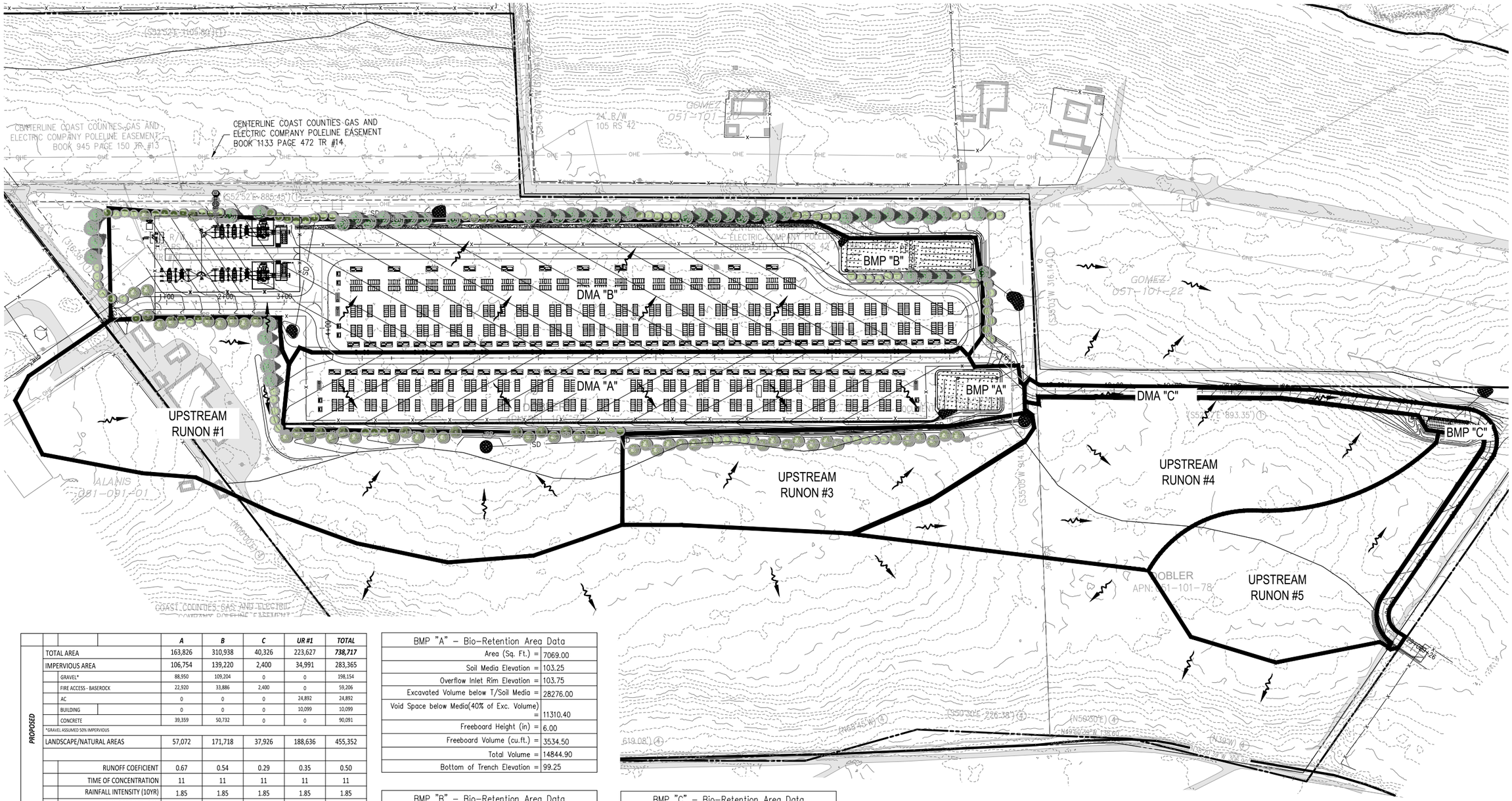
The existing 15-inch pipe has an approximate slope of 2%. Based on this information, C2G has conducted a capacity analysis which shows that the 15-inch pipe can convey up to 9.73 CFS, which exceeds the 10-year flow rate noted above.

SUMMARY

The proposed drainage route is designed to release at the same location as pre-development conditions, mimicking the existing flow direction. Due to the onsite increase of impervious area, the proposed stormwater mitigation features (bio-filtration areas) have been upsized to increase the detention volume to a 25-year storm event releasing at a 5-year pre-development rate.

Attachment A

Plan sheet C4.1



			A	B	C	UR #1	TOTAL
PROPOSED	TOTAL AREA		163,826	310,938	40,326	223,627	**738,717**
	IMPERVIOUS AREA		106,754	139,220	2,400	34,991	283,365
		GRAVEL*	88,950	109,204	0	0	198,154
		FIRE ACCESS - BASEROCK	22,920	33,886	2,400	0	59,206
		AC	0	0	0	24,892	24,892
		BUILDING	0	0	0	10,099	10,099
		CONCRETE	39,359	50,732	0	0	90,091
	*GRAVEL ASSUMED 50% IMPERVIOUS						
	LANDSCAPE/NATURAL AREAS		57,072	171,718	37,926	188,636	455,352
		RUNOFF COEFICIENT	0.67	0.54	0.29	0.35	0.50
		TIME OF CONCENTRATION	11	11	11	11	11
		RAINFALL INTENSITY (10YR)	1.85	1.85	1.85	1.85	1.85
		RUNOFF RATE (CFS)	***4.686***	***7.145***	***0.494***	***3.340***	***15.666***
		(25 YR)	*5.624*	*8.574*	*0.593*	*4.008*	*18.799*
		(50 YR)	*6.327*	*9.645*	*0.667*	*4.509*	*21.149*
		(100 YR)	*7.030*	*10.717*	*0.742*	*5.010*	*23.499*

BMP "A" – Bio-Retention Area Data	
Area (Sq. Ft.) =	7069.00
Soil Media Elevation =	103.25
Overflow Inlet Rim Elevation =	103.75
Excavated Volume below T/Soil Media =	28276.00
Void Space below Media(40% of Exc. Volume) =	11310.40
Freeboard Height (in) =	6.00
Freeboard Volume (cu.ft.) =	3534.50
Total Volume =	14844.90
Bottom of Trench Elevation =	99.25

BMP "B" – Bio-Retention Area Data	
Area (Sq. Ft.) =	12154.00
Soil Media Elevation =	103.25
Overflow Inlet Rim Elevation =	103.75
Excavated Volume below T/Soil Media =	48616.00
Void Space below Media(40% of Exc. Volume) =	19446.40
Freeboard Height (in) =	6.00
Freeboard Volume (cu.ft.) =	7596.25
Total Volume =	27042.65
Bottom of Trench Elevation =	99.25

BMP "C" – Bio-Retention Area Data	
Area (Sq. Ft.) =	989.00
Soil Media Elevation =	86.00
Overflow Inlet Rim Elevation =	86.75
Excavated Volume below T/Soil Media =	3956.00
Void Space below Media(40% of Exc. Volume) =	1582.40
Freeboard Height (in) =	9.00
Freeboard Volume (cu.ft.) =	1205.34
Total Volume =	2787.74
Bottom of Trench Elevation =	82.00

STORM WATER MANAGEMENT

SCALE: 1"=80'

0 80 160

new leaf energy
55 TECHNOLOGY DRIVE, SUITE 102
LOWELL, MA 01851
PHONE: (800) 818-5249
FAX: (888) 678-8991
WWW.NEWLEAFENERGY.COM

NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

SEAHAWK ENERGY STORAGE
90 MINTO ROAD
WATSONVILLE CA, 95076

PROJECT NUMBER: 110-5227

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
	12/12/24	MRM		SUBSTATION/BESS UPDATE
	12/09/24	MRM		CUP SUBMISSION
	07/02/25	C2G		CIVIL UPDATE

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

C-4.1
STORM WATER MANAGEMENT

Attachment B

Culvert and Swale Capacity Analysis

Channel Report

Project Name: Seahawk Energy Storage

Studio Express by Hydrology Studio v 1.0.0.15

08-06-2025

15inch Culvert

Channel 1

CIRCULAR PIPE

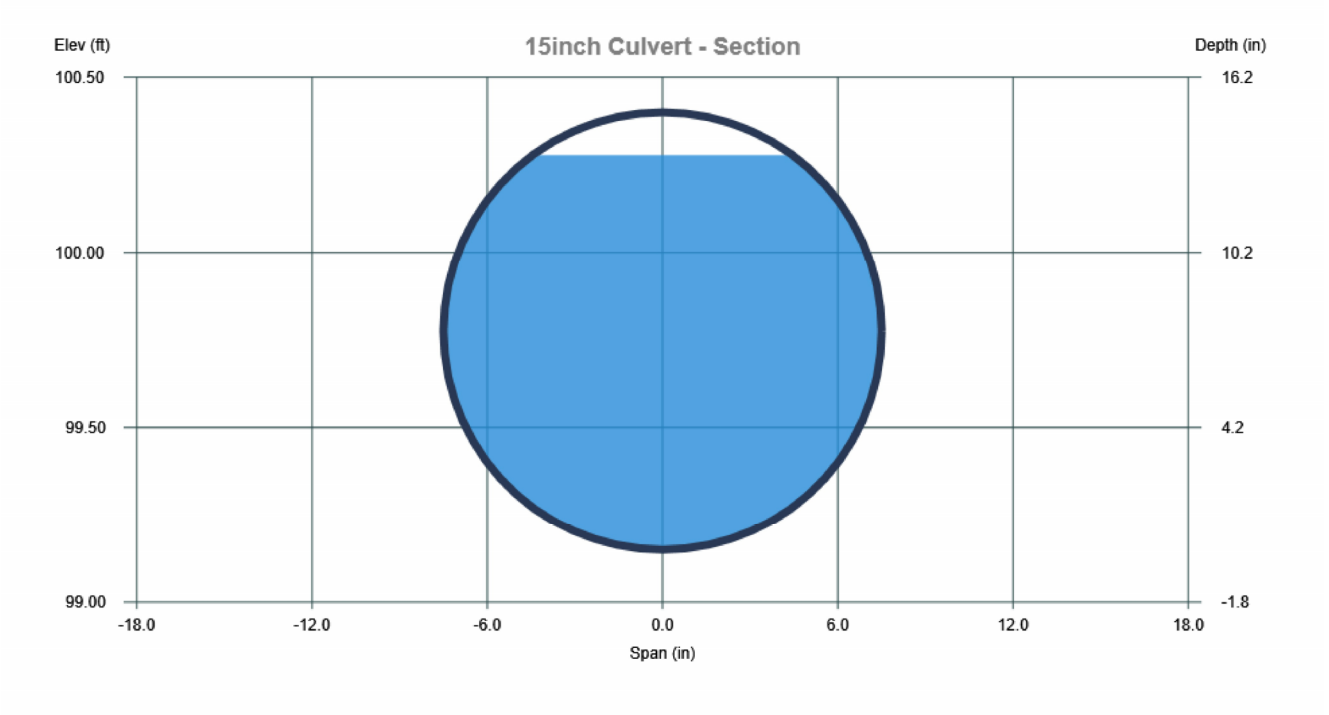
Diameter	= 15.0 in
Invert Elevation	= 99.15 ft
Pipe Slope	= 2.000 %
Manning's n	= 0.013

DISCHARGE

Method	= Q vs Depth
Q Min	= 0.19 cfs
Q Max	= 9.13 cfs
Increments	= 10

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(in)	(sqft)	(ft/s)	(ft)		(in)	(ft)	(ft)	(lb/sqft)	(ft)
9.73	13.5	1.16	8.37	3.12	0.013	14.2	100.3	101.36	1.40	0.75



Channel Report

Project Name: Seahawk

Studio Express by Hydrology Studio v 1.0.0.15

12-10-2024

Swale

Channel 1

PARABOLIC

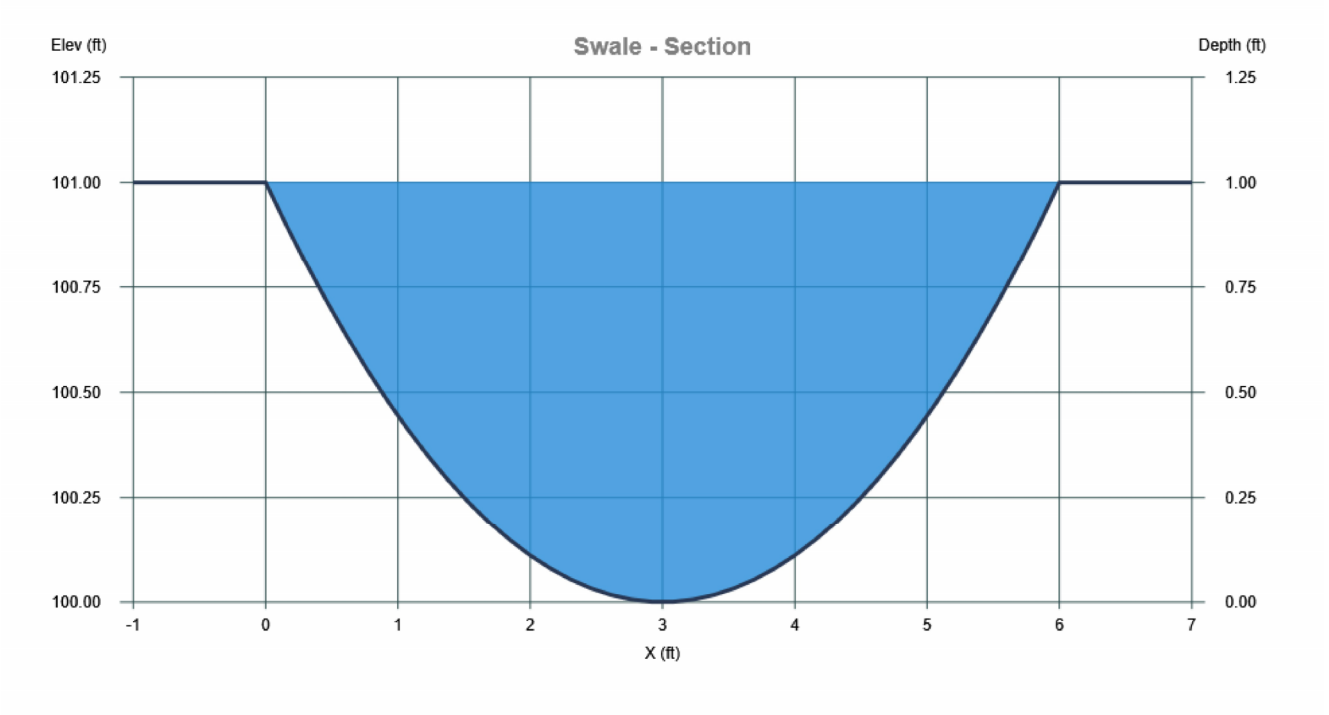
Top Width	= 6.00 ft
Total Depth	= 1.00 ft
Invert Elevation	= 100.00 ft
Channel Slope	= 2.000 %
Manning's n	= 0.040

DISCHARGE

Method	= Q vs Depth
Q Min	= 0.11 cfs
Q Max	= 15.29 cfs
Increments	= 10

CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Crit Depth	HGL	EGL	Max Shear	Top Width
(cfs)	(ft)	(sqft)	(ft/s)	(ft)		(ft)	(ft)	(ft)	(lb/sqft)	(ft)
15.29	1.00	4.00	3.82	6.44	0.040	0.91	101.00	101.23	1.25	6.00



Appendix 3.15B

Storm Water Control Operation and Maintenance Plan

STORM WATER CONTROL OPERATION AND MAINTENANCE PLAN

FOR

BATTERY ENERGY STORAGE SYSTEM
90 Minto Road
Watsonville, California

Prepared For:
Sequoia Energy Storage 1, LLC
55 Technology Drive, Suite 102
Lowell, MA 01851

Prepared By:
C2G Civil Consultants Group
4444 Scotts Valley Drive
Scotts Valley, California 95066
831.438.4420

Revised:
December 10, 2024

C2G Civil Consultants Group Project Number:
3038.01

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners

Recording requested by:

Upon recording return to:
County of Santa Cruz, DPW
Stormwater Management Section
701 Ocean Street, Room 410
Santa Cruz, CA 95060

(Space above this line for Recorder's use)

PRIVATE STORMWATER MANAGEMENT MAINTENANCE AGREEMENT

APN: 051-101-77 & 78

Application No. _____

_____, being the responsible party of the real property located at 90 Minto Road Watsonville, California, consents and agrees to inspect and maintain annually "prior to the rainy season" and to maintain as necessary for ensuring proper performance of the stormwater management facilities on the subject property as shown on the plans prepared by C2G Civil Consultants Group dated 12.10.2024 per County Code 7.79. I understand that maintenance will be performed in accordance with the Operations and Maintenance Manual (attached) prepared by C2G Civil Consultants Croup, dated 12.10.2024 per County Code 7.79, and to release, defend and indemnify the County from any and all claims or liability relating to my failure to perform this obligation. I understand that the County Department of Public Works staff may conduct inspections of the facility and that as the property owner, I may be assessed an annual service charge and/or re-inspection fee to cover the costs of inspection and oversite. I agree to forward a letter to the County Department of Public Works, prior to 15 October of every year, stating the date and type of service performed on these facilities.

This document also acknowledges that if the parcel does and will continue to receive upstream runoff, that the property owner is responsible for maintenance of the drainage pathway (natural and/or man-made) through the parcel, and that the County & Flood Control District(s) are not responsible for the upstream runoff or for the maintenance of the drainage pathway.

I have read the above agreement and understand it. This agreement shall be binding on and shall inure to the benefit of the successors, heirs, executors, administrators, and assigns of owner.

Owner_____
(Printed Name) (E-mail) (Phone)

Owner_____
(Signature)

Dated this_____day of_____-_____

(Note: The signature on this form must be notarized. Please attach a copy of the O&M to this form, then record the entire packet.)

TABLE OF CONTENTS

1. SUMMARY OF STORM WATER TREATMENT FACILITIES

Introduction

The project is located at 90 Minto Road, Watsonville, CA. Proposed improvements include building a 200MW Battery Energy Storage System and stormwater control facilities.

Various aspects of the site and the proposed development were considered in the design of the Stormwater Best Management Practices (BMPs). The site area is 9.19-ac, and the proposed impervious improvements on this project total 7.92-ac, making the project a Large Project as defined in the Santa Cruz County Design Criteria (Criteria). The following Stormwater Control Plan (SWCP) will address the various aspects of the site and design of the project, as well as runoff mitigation efforts.

Narrative Description

The proposed development is comprised of construction of building a 200MW Battery Energy Storage System and stormwater control facilities. Asphaltic concrete (AC) and Portland cement concrete (concrete) improvements are considered essentially impervious.

The project is designed to provide capture of the majority of common pollutants by directing runoff from impervious surfaces into bioretention ponds. This facility will provide treatment by infiltration (retention).

Such pollutants consist of oils from existing and proposed AC as well as any material eroded from roofing treatments or concrete surfaces. Site design measures used to minimize potential for stormwater pollution include clustering structures and pavement and provision of landscaped areas. The remaining potential sources of pollution include pavement and vehicle parking areas (potential for leaks, cleaning compounds, etc.), offsite run-on areas (misc. pollutants), and landscaped areas (potential for fertilizers, pesticides, etc.).

1.1 Functions of Bio Retention Areas

Bioretention basins are landscaped depressions or shallow basins used to slow and treat on-site stormwater runoff. Stormwater is directed to the basin and then percolates through the system where it is treated by a number of physical, chemical and biological processes. The slowed, cleaned water is allowed to infiltrate native soils or directed to nearby stormwater drains or receiving waters.

2. RESPONSIBILITY FOR MAINTENANCE

The property owner (Sequoia Energy Storage 1, LLC) and any future owner is responsible for maintaining the private drainage system including rain gutters, downspouts, area drains, risers, inlets, outlets, overflows, clean-outs, pipelines, and connectors that direct water to the stormwater treatment facilities. Any major maintenance (such as replacing sand, re-grading, subdrain replacement, or similar effort) of the Sand Filter areas should only be conducted by a competent professional such as a licensed landscape contractor.

Landscape contractors retained for maintenance must familiarize themselves with the purposes, design specifications, features, and mode of operation of the treatment facilities. Maintenance service providers (landscape maintenance and other maintenance), including maintenance supervisors and employees, need to be informed of the specific maintenance requirements for the treatment facilities and should review the Storm Water Control Operations and Maintenance Plan (this document).

3. SUMMARY OF DRAINAGE AREAS

The project is divided into two (2) drainage management areas (DMAs) identified as A & B. DMAs A and B discharge into the proposed bioretention areas (BMP A and B) at the eastern edge of the property overflow then discharges into natural watercourse. The stormwater treatment facilities utilized at this site include bio retention areas with an alternative to use Mechanical treatment if necessary. Treatment facility locations are located on the Storm Water Control Plan, see Appendix 10.4.

4. GENERAL MAINTENANCE REQUIREMENTS

Landscape contractors retained for maintenance must familiarize themselves with the purposes, design specifications, features, and mode of operation of the treatment facilities and should review the Storm Water Control Plan (in addition to this document). As will be reflected in contracts for landscape maintenance and other maintenance services, maintenance supervisors and employees need to be informed of the following specific maintenance requirements for the treatment facilities. Maintenance instructions include the following (see Inspection and Maintenance Checklist for more detailed maintenance instructions).

Summary of Maintenance Requirements

The stormwater facilities proposed throughout the project site to meet runoff quality requirements include bio retention facilities and chamber system. The following are minimum maintenance requirements for these types of facilities.

4.1 Bio Retention Areas

These facilities remove pollutants primarily by filtering runoff slowly through an active layer of sand. Routine maintenance is needed to ensure flow is unobstructed, erosion is prevented, and the sand is filtering the stormwater thoroughly. Typical maintenance consists of the following:

- Inspect bio retention system after every major storm in the first few months after construction to ensure that the system is functioning properly.
- Bio retention media shall be tested to infiltrate no less than 5 inches per hour.
- No standing water should be observed 2 hours after each storm.
- Inspect facility once during the wet season after a large rain event to determine whether the facility is draining completely within 48 hours.

- Ensure that flow is not bypassing the Bio Rentention system.
- Inspect inlets for channels, exposure of sand, or other evidence of erosion. Clear any obstructions and remove any accumulation of sediment. Examine rock or other material used as a splash pad and replenish if necessary.
- Inspect outlets for erosion or plugging.
- Inspect side slopes for evidence of instability or erosion and correct as necessary.
- Remove and replace top 2 inches of sand if facility drain time exceeds 48 hours.
- Remove accumulated sediment every year or when the sediment occupies 10-20% of the basin volume or accumulates to a depth of 6 inches, whichever is less.

- Remove and replace bio retention facility every five (5) years.

- Confirm that discharge pipes entering sand filter areas are not clogged after every major storm event, are in place and level and that channelization within the bio retention is effectively prevented.

- Abate any potential vectors by filling holes in the ground in and around the bio retention and by ensuring that there are no areas where water stands longer than 48 hours following a storm. If mosquito larvae are present and persistent, contact the Santa Cruz Mosquito Abatement & Vector Control Division, (831) 454-2590 for information and advice. Mosquito larvicides should be applied only when necessary and then only by a licensed individual or contractor.

  Refer to Appendix 10.3 - Inspection and Maintenance Checklist – Bio Retention

5. DESIGN CALCULATIONS AND DOCUMENTATION

See Appendix 10.7 – Storm Water Mitigation Plan, for sizing calculations.

6. INSPECTION AND MAINTENANCE SCHEDULE

Bio Retention facilities should, at a minimum, be inspected twice a year, or more frequently per manufacturer's recommendations. These inspections should occur prior to the start of the rainy season and after completion of the rainy season.

7. REPORTING AND UPDATES FOR PRIVATE STORMWATER FACILITIES

Each year the entity responsible for maintenance is required to complete an annual report. The report shall include copies of completed inspection and maintenance checklists to document the maintenance activities here conducted during the previous year. The annual report shall be retained for a period of at least five years and made

available upon request by the County of Santa Cruz or the Monterey Bay Regional Water Quality Control Board (RWQCB).

Refer to Appendices 10.1 and 10.2.

The Storm Water Control Operations and Maintenance Plan will be a living document.

Operation and maintenance personnel may turn over; mechanical equipment may be replaced, and additional maintenance procedures may be needed as staff gains experience and equipment ages. Through these changes, the Operations and Maintenance Plan must be kept up-to-date.

Updates may be transmitted to the County at any time. However, at a minimum, updates to the Operations and Maintenance Plan must accompany the annual inspection report. These updates should be placed in reverse chronological order (most recent on top) in Appendix 10.2 of this binder. If the entire Operations and Maintenance Plan is updated, as it should be from time to time, these updates should be removed from Appendix 10.2, but may be filed for possible future reference.

Annual inspection reports and updates must be 3-hole punched.

8. IMPERVIOUS AREA NOTE

The Stormwater mitigation system for the site runoff has been design based on the impervious areas (including but limited to; Building, concrete sidewalks, asphalt roads and parking, curb and gutter, transformer pad, etc.). No additional impervious or semi-impervious area coverage beyond the limits shown shall be constructed without updated mitigations and prior approval by the County of Santa Cruz.

9. SPILL OBSERVATION AND CLEAN UP

This section describes measures to clean-up observed spills. Clean-up of spills should be immediate, automatic and routine. They should also be performed by a trained staff member or a licensed cleaning company, if appropriate.

9.1 Minor Spills

Minor spills are those which are likely to be controlled by on-site personnel. After contacting local emergency response agencies, the following actions should occur upon discovery of a minor spill:

- Contain the spread of the spill.
- If the spill occurs on paved or impermeable surfaces, clean-up using dry methods (i.e., absorbent materials, cat litter and/or rags).
- If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.

- If the spill occurs during rain, cover the impacted area to avoid runoff.
- Record all steps taken to report, contain and clean-up the spill.

9.2 Major Spills

Major spills are those which are unlikely to be controlled by on-site personnel. On-site personnel should not attempt to control major spills until the appropriate and qualified emergency response staff have arrived at the site. In addition to local authorities, notify the Governor's Office of Emergency Services Warning Center at (800) 852-7550. For spills of federal reportable quantities, also notify the National Response Center at (800) 424-8802. A written report should be sent to all notified authorities.

10. CERTIFICATION

See Appendix 10.1 for Owner's Certification.

11.0 APPENDICES

Appendix 11.1 – Owner's Certification

Owner's Certification

The selection, sizing, and design of stormwater treatment and other control measures in this plan meet the requirements of the Santa Cruz County Design Criteria.

All stormwater treatment facilities will be inspected and maintained in accordance with this document.

Signed:_____ Date: _____

Title: _____

Appendix 11.2 – Inspection & Maintenance Checklist – Bioretention Area

Inspection and Maintenance Checklist
Bioretention/Sand Filter Area

Property Address: _____

Date of Inspection: _____

Inspector(s): _____

Property Owner: _____

Type of Inspection: □ Pre-rainy season □ Monthly □ Quarterly
□ Annual □ Re-inspection

Item	Conditions When Maintenance is Needed	Maintenance Needed? (Y/N)	Typical Maintenance	Comments
General				
Trash & Debris	Trash and debris accumulated in basin. Visual evidence of dumping.		Trash and debris cleared from site.	
Contaminants and Pollution	Any evidence of oil, gasoline, contaminants or other pollutants.		Remove contaminants or pollutants. Dispose of properly.	
Vegetation	When the planted vegetation becomes excessively tall. When nuisance weeds and other vegetation start to take over.		Vegetation mowed per specifications or maintenance plan, or nuisance vegetation removed so that flow is not impeded. Vegetation should never be mowed lower than the design flow depth. Remove clippings from the area and dispose appropriately.	
Tree/Brush Growth and Hazard Trees	Growth does not allow maintenance access or interferes with maintenance activity. Dead, diseased, or dying trees.		Remove hazard trees as approved by the City. (Use a certified Arborist to determine health of tree or removal requirements)	
Erosion	Eroded over 2 in. deep where cause of damage is still present or where there is potential for continued erosion.		Add mulch to fill in void areas.	

Inspection and Maintenance Checklist Bioretention/Sand Filter Area (continued)

Property Address: _____ Inspection Date: _____

Treatment Measure No.: _

Item	Conditions When Maintenance is Needed	Maintenance Needed? (Y/N)	Typical Maintenance	Comments
Sediment	Accumulated sediment affects inletting or outletting condition of the facility.		Remove sediment. Reseed area.	
Damaged Pipes	Any part of the piping that is crushed or deformed more than 20% or any other failure to the piping.		Repair or replace pipe.	
Rodent Holes	If facility acts as a dam or berm, any evidence of rodent holes, or any evidence of water piping through dam or berm via rodent holes.		Repair damage until the design specifications are not compromised by holes. Rodent control activities must be in accordance with applicable laws and do not affect ay protected species.	
Standing Water	If standing water is observed more than 2 hours after the cessation of a storm		Remove top 2 inches of soil media and replace with new bio retention soil media.	
Infiltration Rate	Perform Infiltration test to ensure a minimum infiltration rate of 5 inches per hour.		If maintenance from "Standing Water" has occurred and rate is less than 5 inches per hour, replace bioretention soil media	
Size and depth of Ponding	Areas (per plan) and/or ponding depth (6" min.) is not provided.		Expand bio-retention area and/or Lower soil media to create 6" of ponding before entering overflow pipe.	

Appendix 11.3 – Inspection & Maintenance Checklist – General Storm Drainage Facilities

Inspection and Maintenance General Storm Drainage Facilities

Property Address: _____

Inspection Date: _____

Item	Conditions When Maintenance is Needed	Maintenance Needed? (Y/N)	Typical Maintenance	Comments
Storm Drainage Drop Inlets	• Drain Inlets and Outlets are clear of debris. No ponding observed. • Drain Inlets and Outlets partially blocked/impaired by sediment, vegetation, or debris. Some ponding found. • Drain Inlets and Outlets "Drains to Bay" emblem.		• No maintenance required • Remove sediment, vegetation, and/or debris • Ensure Emblem is visible and intact. Replace missing emblems.	

Appendix 11.4 – Source & Treatment Control Operation & Maintenance Inspection Annual Report

Source and Treatment Control Operation and Maintenance Inspection Annual Report

This report and attached Inspection and Maintenance Checklists document the inspection and maintenance conducted for the identified storm water source and treatment control(s) that are subject to the maintenance mechanism that assigns responsibility for maintenance. The report covers the annual reporting period indicated below.

Note: This Report is for bioretention units, Underground Chambers, Flow Control Structures, inlets, storm drain pipes, manholes, swales, and source control measures including the no dumping signage.

I. Property Information:

Property Address or APN: Property Owner: _____

II. Contact Information:

Name of person to contact regarding this report: _____

Phone number of contact person: _____ Email: _____

Address to which correspondence regarding this report should be directed:

_____

_____

III. Reporting Period:

This report, with the attached completed inspection checklists, documents the inspections and maintenance of the identified treatment measures during the time period from _____ to_____.

IV. Storm Water Source and Treatment Control Information:

The following storm water source and treatment controls are located on the property identified above and are subject to the Agreement:

Identifying Number of Source and Treatment Control	Type of Source and Treatment Control	Location of Source and Treatment Control on the Property

V. Summary of Inspections and Maintenance:

Summarize the following information using the attached Inspection and maintenances Checklists:

Identifying Number of Source and Treatment Control	Date of Inspection	Operation and Maintenance Activities Performed and Date(s) Conducted	Additional Comments

VI. Sediment Removal:

Total amount of accumulated sediment removed from the storm water treatment measure(s) during the reporting period:_____cubic yards.

How was sediment disposed?

□ landfill

□ Other location on-site as described in and allowed by the maintenance plan

□ Other, explain _____

VII. Inspector Information:

The inspections documented in the attached Inspection and Maintenance Checklists were conducted by the following inspector(s):

Inspector Name and Title	Inspector's Employer and Address

VIII. Certification:

I herby certify, under penalty of perjury, that the information presented in this report and attachments is true and complete:

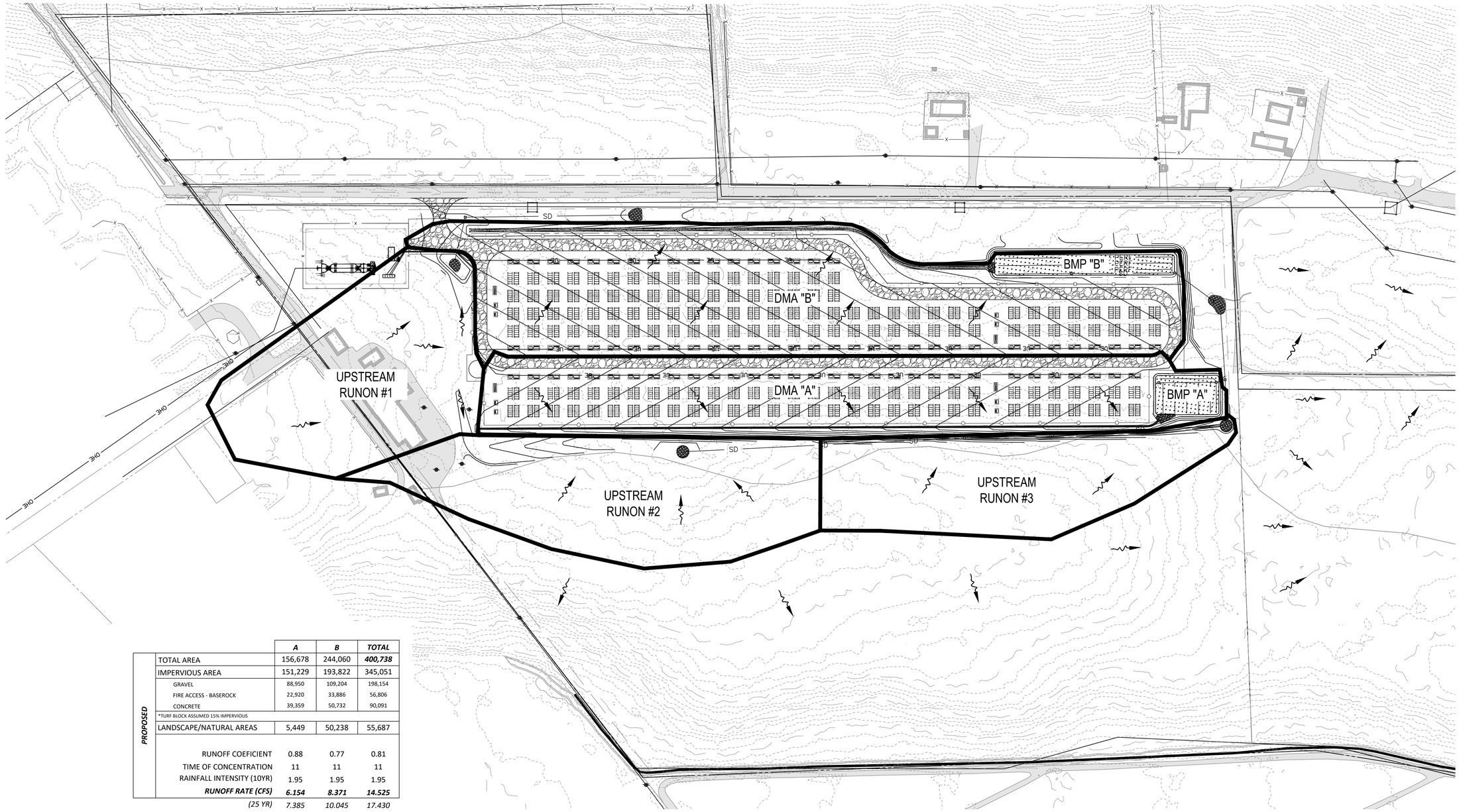
Signature of property Owner or other Responsible Party

Date

Type or Print Name

Company Name

Appendix 10.5 – Storm Water Control Plan



		A	B	TOTAL
PROPOSED	TOTAL AREA	156,678	244,060	***400,738***
	IMPERVIOUS AREA	151,229	193,822	345,051
	GRAVEL	88,950	109,204	198,154
	FIRE ACCESS - BASEROCK	22,920	33,886	56,806
	CONCRETE	39,359	50,732	90,091
	*TURF BLOCK ASSUMED 15% IMPERVIOUS			
	LANDSCAPE/NATURAL AREAS	5,449	50,238	55,687
	RUNOFF COEFICIENT	0.88	0.77	0.81
	TIME OF CONCENTRATION	11	11	11
	RAINFALL INTENSITY (10YR)	1.95	1.95	1.95
	RUNOFF RATE (CFS)	***6.154***	***8.371***	***14.525***
	(25 YR)	*7.385*	*10.045*	*17.430*
	(50 YR)	*8.308*	*11.301*	*19.609*
	(100 YR)	*9.231*	*12.557*	*21.788*

STORM WATER MANAGEMENT

SCALE: 1"=80'

0 80 160

new leaf energy
55 TECHNOLOGY DRIVE, SUITE 102
LOWELL, MA 01851
PHONE: (800) 818-5249
FAX: (888) 678-8991
WWW.NEWLEAFENERGY.COM

C2G /CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners
4444 Scotts Valley Drive / Suite 6
Scotts Valley, CA 95066
831.438.4420

NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
TODD R. CREAMER
No. C 64561
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

SEAHAWK ENERGY STORAGE
90 MINTO ROAD
WATSONVILLE CA, 95076

PROJECT NUMBER:
110-5227

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
	12/09/24	MRM		BID SET

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

C-4.1
STORM WATER MANAGEMENT

Appendix 3.15C

Storm Water Control Plan

Storm Water Control Plan

Seahawk Battery Storage
90 Minto Road, Watsonville, CA
APN 051-101-77

Client:

New Leaf Energy, Inc.

December 10, 2024

By:

C2G / Civil Consultants Group, Inc.
4444 Scotts Valley Drive, Suite 6
Scotts Valley, CA 95066
(831) 438-4420

CONTENTS

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- Project Site Soil Map
- Project Site Soil Data Sheets

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- Santa Cruz County Rainfall Intensity – Duration Curve Chart

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- SWM-17 Spreadsheets
- Restrictor Calculation Spreadsheets
- Concrete Channel Reports

Attachment E
- Potential Pollutant Generating Activities Exhibit

Attachment F
- Downstream Impact Analysis

Attachment G
- Stormwater Threshold – Appendix A Form

PROJECT SUMMARY

INTRODUCTION

The project is located at 90 Minto Road. in Watsonville, CA. Proposed improvements include the installation of battery energy storage equipment installed on concrete pads and accessed by a 20-foot wide gravel access road. Perimeter fencing is also proposed.

Various aspects of the site and the proposed development were considered in the design of the Stormwater Best Management Practices (BMPs). The subject property is a 37-acre property that consists of apple orchards. The disturbance area consists of 11.25 acres, and the proposed impervious improvements on this project total 7.921 acres, making the project a Large Project as defined in the Santa Cruz County Design Criteria (Criteria). The following Stormwater Control Plan (SWCP) will address the various aspects of the site and design of the project, as well as runoff mitigation efforts.

The existing site trains from west to east. The proposed project collects upstream run on and redirects it around the proposed improvements and releases the stormwater on site to mimic the point of release of the pre development conditions. There are no stormwater diversions being proposed. Stormwater leaves the site matching the predevelopment routing.

SUMMARY OF PROJECT INFORMATION

Project Name	Seahawk Energy Storage
Application Number	
Project Location	90 Minto Road
Address and/or Assessor's Parcel Number(s)	051-101-77 & 78
Name of Applicant	William Peregoy
Project Phase Number	N/A
Project Type	Commercial

VICINITY MAP

90 Minto Road., Watsonville, CA; see Figure 1, below.

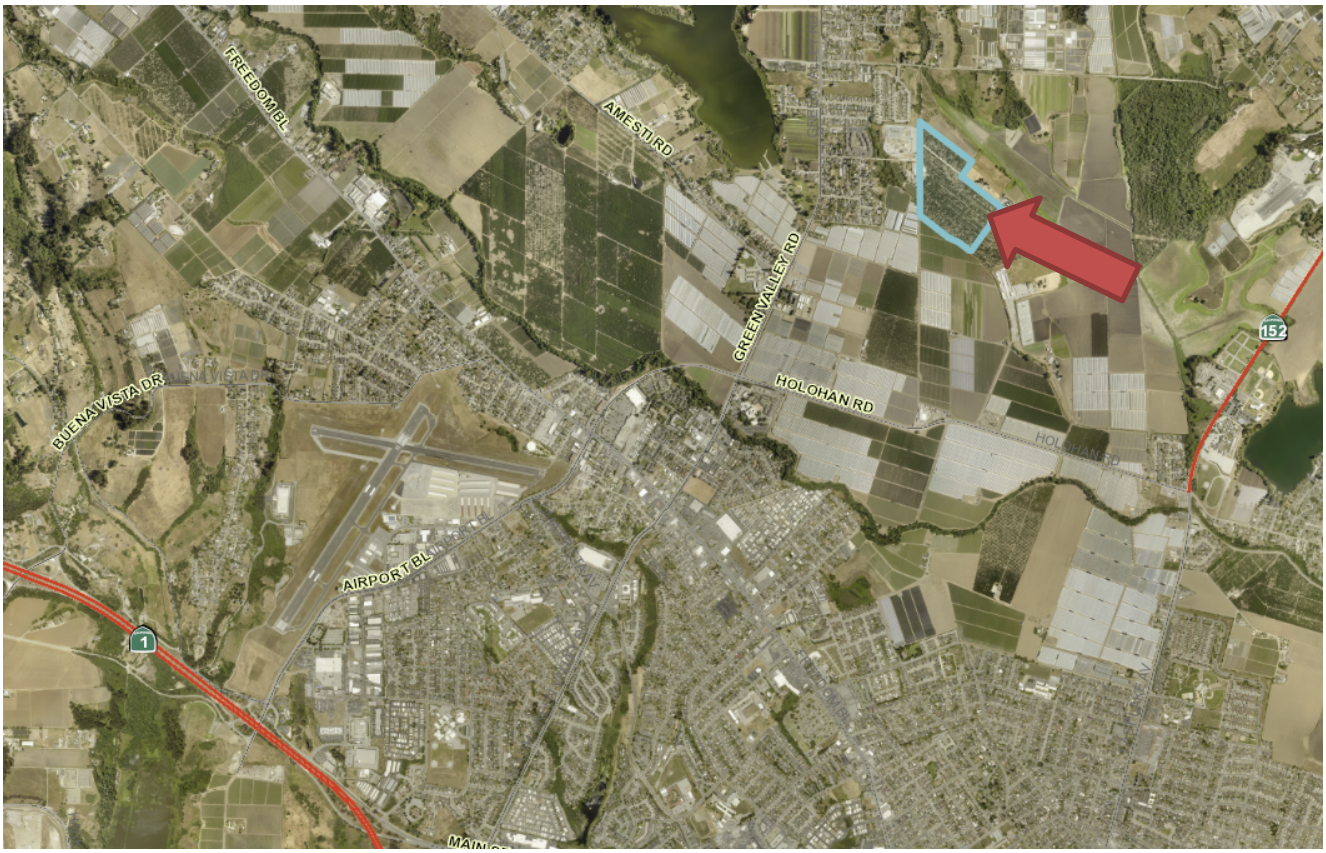


FIGURE 1: VICINITY MAP

NARRATIVE DESCRIPTION

The proposed development consists of the installation of battery energy storage equipment. The energy storage modules will be installed in purpose built enclosures with integrated fire suppression and cooling systems. Access to these modules is provided with a 20'-wide fire access road (aggregate base rock) and gravel surrounding each of the concrete mounting pads.

The project is designed to capture of the majority of common pollutants by directing runoff from impervious surfaces into the proposed bio-retention areas which are designed to provide treatment and stormwater detention. Such pollutants consist of oils from proposed concrete and gravel roads. Site design measures used to minimize potential for stormwater pollution include minimizing impervious areas, in particular areas; clustering structures and pavement, and provision of landscaped areas. The remaining potential sources of pollution include vehicle parking areas (potential for leaks,

cleaning compounds, etc.), offsite run-on areas (misc. pollutants), landscaped areas (potential for fertilizers, pesticides, etc.).

SITE PHYSICAL CHARACTERISTICS

SOIL CLASSIFICATION

The soil at the site consists primarily of Watsonville Loam (Soil Type 177) per NCS Web Soil Survey Website. This soil type does not drain well, with average infiltration rates ranging from 0.00 in/hr to 0.06 in/hr. See the site location on the map shown in NRCS Soils Data in Attachment A.

GROUNDWATER

The depth to groundwater on this site is approximately 10 to 16 feet deep.

RAINFALL INTENSITY

The mean annual precipitation at the site is approximately 32.5 inches. See Figure 3, below.

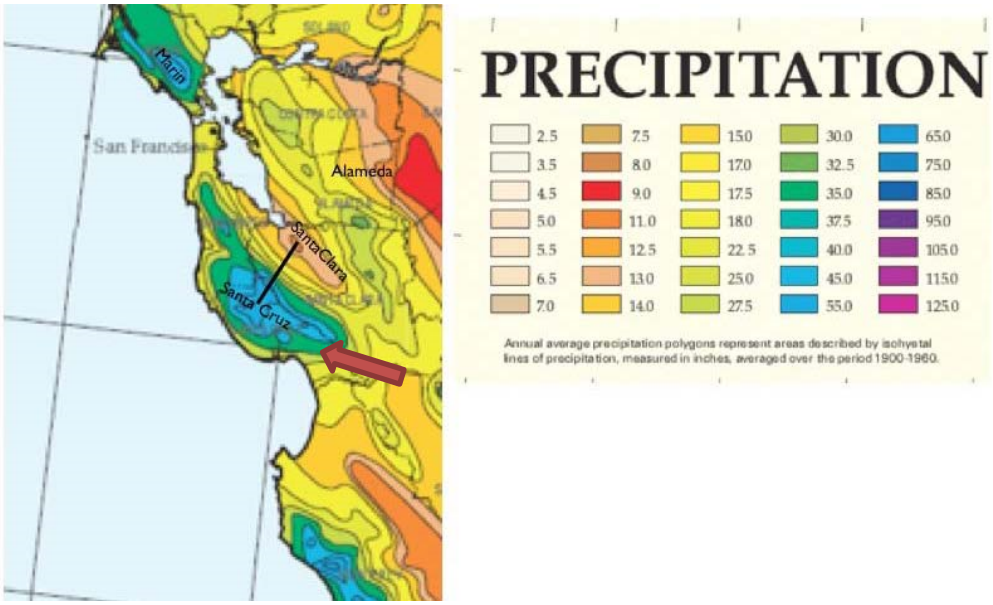


FIGURE 2: MEAN ANNUAL PRECIPITATION MAP

The P60 Isopleth value has been determined to be approximately 1.3 by linear interpolation. See Figure 4, below.

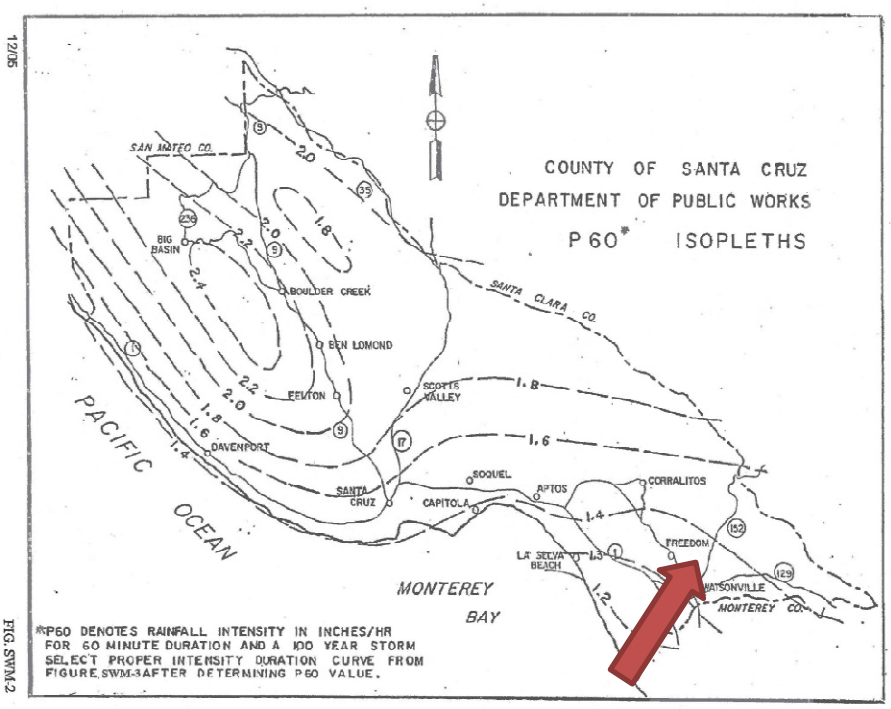


FIGURE 3: SANTA CRUZ COUNTY P-60 ISOPLETH MAP

Applying the P60 Isopleth value, the rainfall intensities have been determined using the Santa Cruz County Rainfall Intensity – Duration Curve Chart (See Attachment B). Refer to the table below for calculated intensities for various return periods:

	10 Yr. Return		Multiplier		Intensity	
2-yr	1.95	x	0.64	=	1.25	in/hr
5-yr	1.95	x	0.85	=	1.66	in/hr
10-yr	1.95	x	1.00	=	1.95	in/hr
25-yr	1.95	x	1.20	=	2.34	in/hr

DESIGN INFORMATION

MITIGATION REQUIREMENTS

Based on Part 3, Section C of the Santa Cruz County Design Criteria, this project is considered a "Large Project" because it adds and/or replaces more than 5,000 square feet of impervious area. Incorporation of BMPs has been provided to reduce pollutant and hydraulic impacts. Such measures

may include Underground Storage & Infiltration, Biofiltration Treatment Systems and Pervious Pavement. This project proposes the implementation of Biofiltration systems.

EXISTING CONDITION DRAINAGE PATTERNS AND TRIBUTARY AREAS

Existing conditions on the site result in runoff draining west to the southeast. There is no existing storm drains on or near the project site.

Stormwater run-on occurs west and south of the property. At the southwesterly corner of the property, approximately 6.5-acres drains to the project property. Based on the existing ridge, identified from the county contours, this portion of upstream run-on is diverted away from the area of work.

PROPOSED CONDITION DRAINAGE PATTERNS AND TRIBUTARY AREAS

Based upon the topographic survey, C2G identified three areas that drain onto the project area. These upstream run on areas include portions that are both on site and off site and require a bypass drainage system to redirect stormwater around the proposed improvements and associated stormwater mitigation features.

The three areas are shown below, and are also identified on sheet C 4.1.

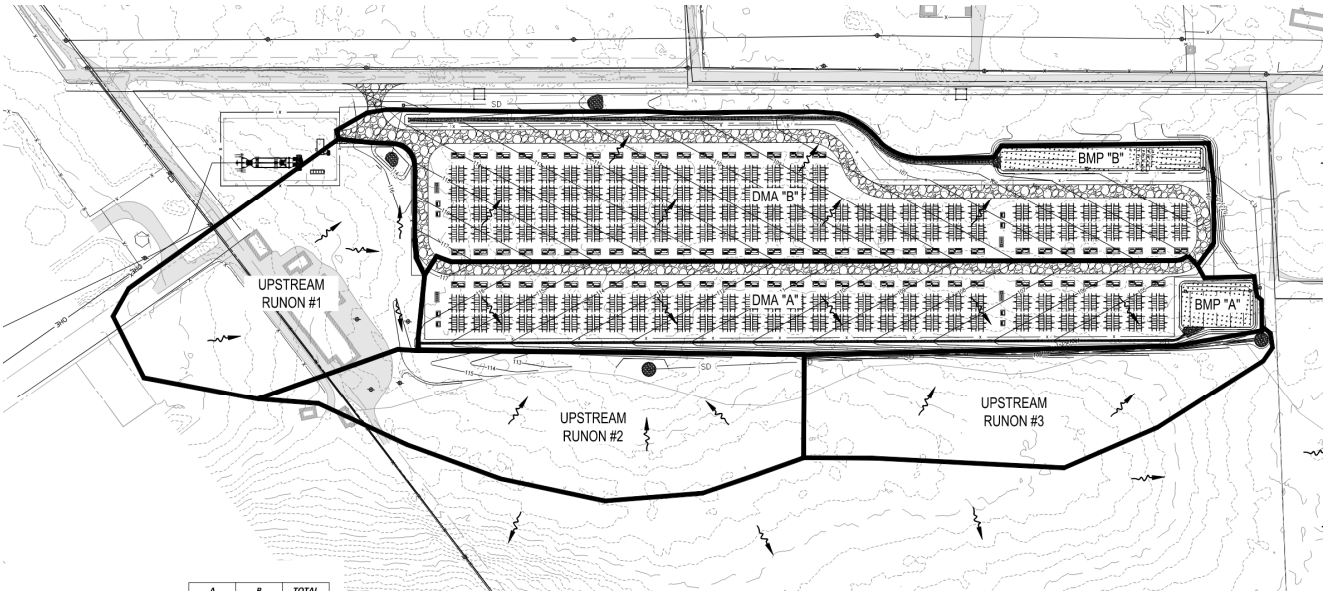


FIGURE 5: AREA OF POTENTIAL STORMWATER RUNON

Each of the upstream run on areas has been equipped with a storm water bypass system to safely convey the water around the project site. In Upstream Runon #1, A 12 inch culvert with flared in sections and RIP rap has been implemented into the design. Refer to sheet C 3.1. Upstream Runon #2, has a low point South of the proposed improvements. Stormwater for this area is collected into an inlet, surrounded by rip-rap to keep sediment from entering, And piped around the southeast corner of the project site to the point of release, east of the proposed improvements. Upstream Runon #3, is collected in a new concrete v-ditch And joins the bypass system from #2.

The area of work consists of two separate drainage management areas (DMAs). These areas are shown on sheet C 4.1. Each of the DMA's have a BMP to mitigate for stormwater runoff. As noted earlier, the BMP's used for this project our biofiltration areas. Due to the findings of the project geotechnical engineer, which confirms soil data from the NRCS website, retention is infeasible at this site.

Each of the proposed biofiltration areas are sized meat the 4% rule for treatment as well as the detention volume specified in figure SWM-17. After the onsite stormwater mitigation, drainage enters a ditch where pre-development stormwater had drained.

Analysis of downstream impacts has been prepared for this project (See Attachment F)

SCM Sizing

The project location includes consists of "Watsonville loam" soil type which does not allow for groundwater infiltration, thus retention has been provided in the stormwater mitigation calculations.

Detention volumes were calculated for DMA A & B using the SWM-17 spreadsheet provided by the County of Santa Cruz. The SWM-17 spreadsheet is included in Attachment D. The pre-development runoff coefficient (C) used was 0.25, per SWM1. Post-development C=0.90 for all impervious areas. Note that these C values provide a very conservative analysis of the actual change in runoff from the site and storage volumes required to maintain such, as some portions of the site are, pre-project, impervious.

Orifice calculations have been provided to reflect a 10-year pre-development release rate for storm water from the biofiltration areas.

Design Engineer Qualifications

The design of biofiltration areas was done under the supervision of Todd Creamer, PE. His qualifications include California Civil Engineer Registration (RCE 64561), California Qualified Storm Water Pollution Prevention Plan (SWPPP) Practitioner/Developer (CA QSP/QSD 00439) and National Certified Erosion and Sediment Control (CESC 2752).

Routine SCM Maintenance and inspections

Annual inspections for the onsite Storm Drainage System are required. Inspections shall occur prior to the rainy season (September or October), which shall be performed by a licensed Civil Engineer.

ATTACHMENT A

- Soil Data
- Soil Map

Santa Cruz County, California

177—Watsonville loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: h9g5
Elevation: 20 to 1,200 feet
Mean annual precipitation: 28 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 245 to 275 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Watsonville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Watsonville

Setting

Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 39 inches: clay
H3 - 39 to 63 inches: sandy clay loam

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R014XD089CA - CLAYPAN
Hydric soil rating: Yes

Minor Components

Elkhorn, sandy loam
Percent of map unit: 5 percent
Hydric soil rating: No

Pinto, loam
Percent of map unit: 4 percent
Hydric soil rating: No

Watsonville, thick surface
Percent of map unit: 3 percent
Landform: Marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Hydric soil rating: Yes

Elder
Percent of map unit: 1 percent
Hydric soil rating: No

Danville
Percent of map unit: 1 percent
Hydric soil rating: No

Cropley, silty clay
Percent of map unit: 1 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 18, Sep 8, 2024

Soil Map—Santa Cruz County, California
(Seahawk)

Map Scale: 1:9,590 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 18, Sep 8, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 11, 2022—May 29, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

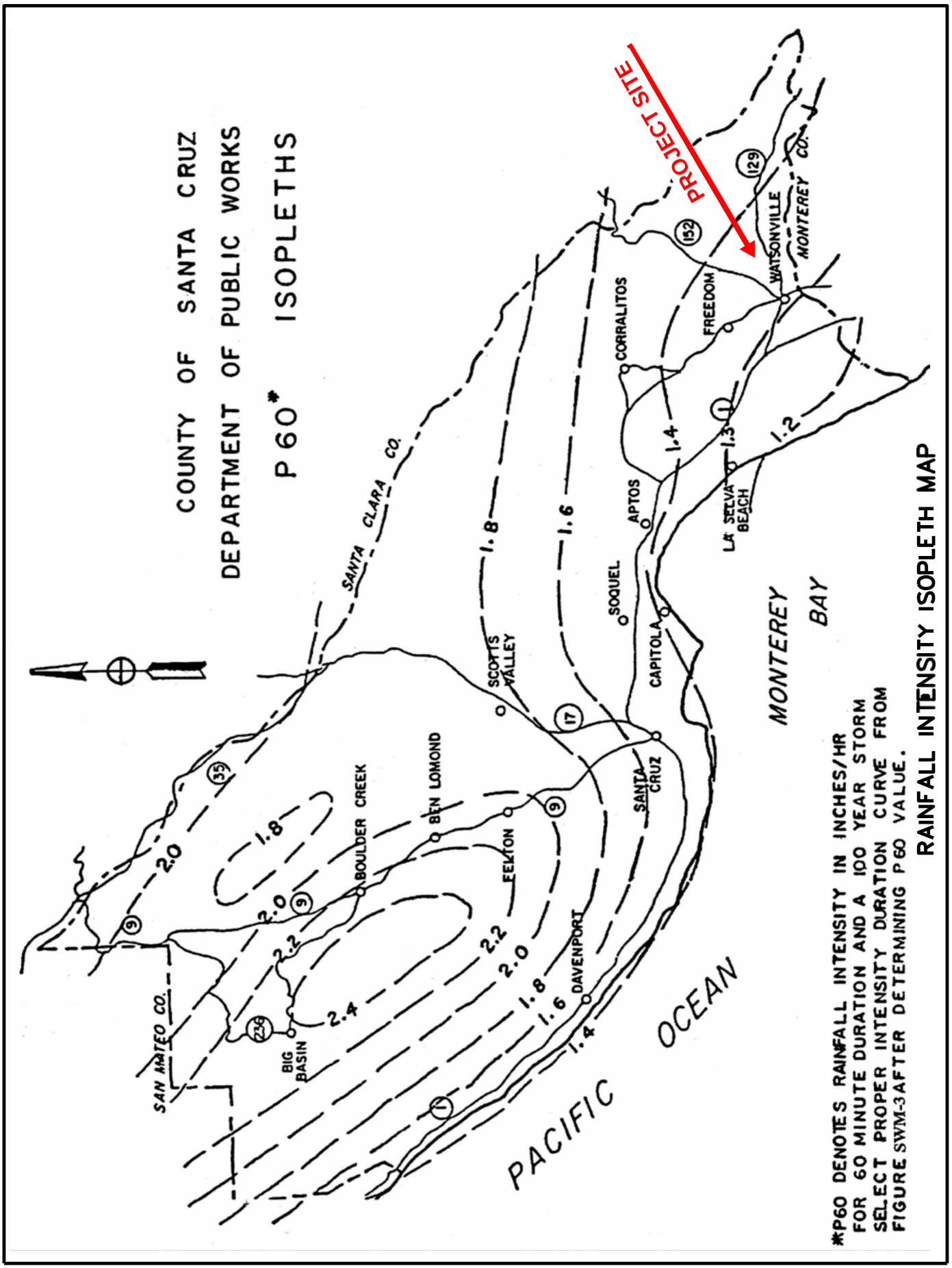
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108	Baywood variant loamy sand	0.9	0.2%
119	Clear Lake clay, drained, 0 to 1 percent slopes, MLRA 14	51.3	11.4%
120	Conejo loam, 0 to 2 percent slopes, cool, MLRA 14	134.0	29.8%
126	Diablo clay, 5 to 25 percent slopes, MLRA 15	38.3	8.5%
129	Elder sandy loam, 0 to 2 percent slopes, MLRA 14	37.0	8.2%
132	Elkhorn sandy loam, 0 to 2 percent slopes	0.2	0.1%
161	Pinto loam, 0 to 2 percent slopes	21.3	4.7%
162	Pinto loam, 2 to 9 percent slopes	30.1	6.7%
163	Pinto loam, 9 to 15 percent slopes	12.0	2.7%
176	Watsonville loam, 0 to 2 percent slopes	5.4	1.2%
177	Watsonville loam, 2 to 15 percent slopes	93.0	20.7%
178	Watsonville loam, thick surface, 0 to 2 percent slopes	3.1	0.7%
179	Watsonville loam, thick surface, 2 to 15 percent slopes	22.4	5.0%
Totals for Area of Interest		**449.1**	**100.0%**

ATTACHMENT B

- Rainfall Intensity

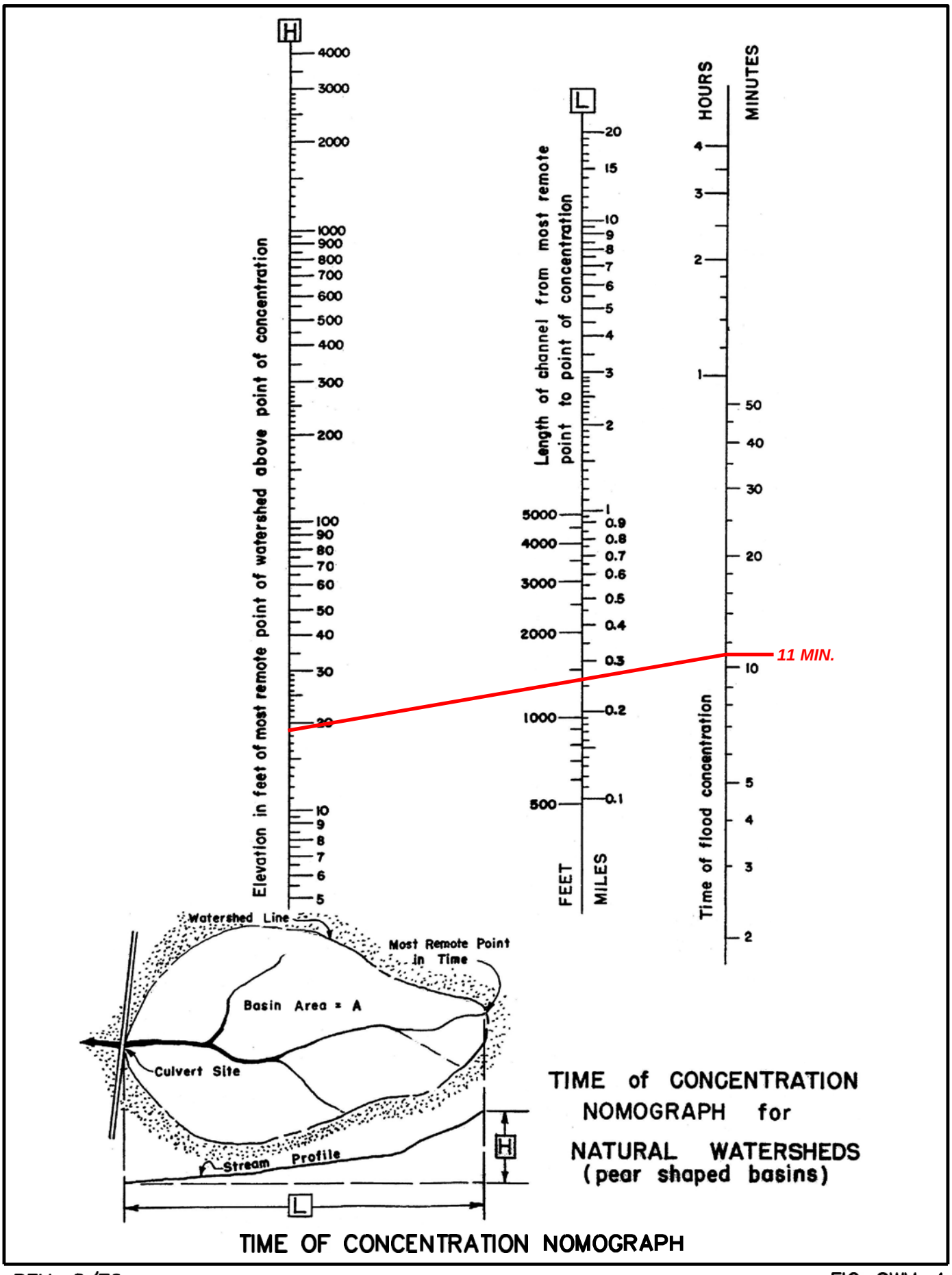
Figure SWM-2: Rainfall Intensity Isopleths



REV 12/05

FIG. SWM-2

Figure SWM-4: Time of Concentration Nomograph



REV 8/76

FIG. SWM-4