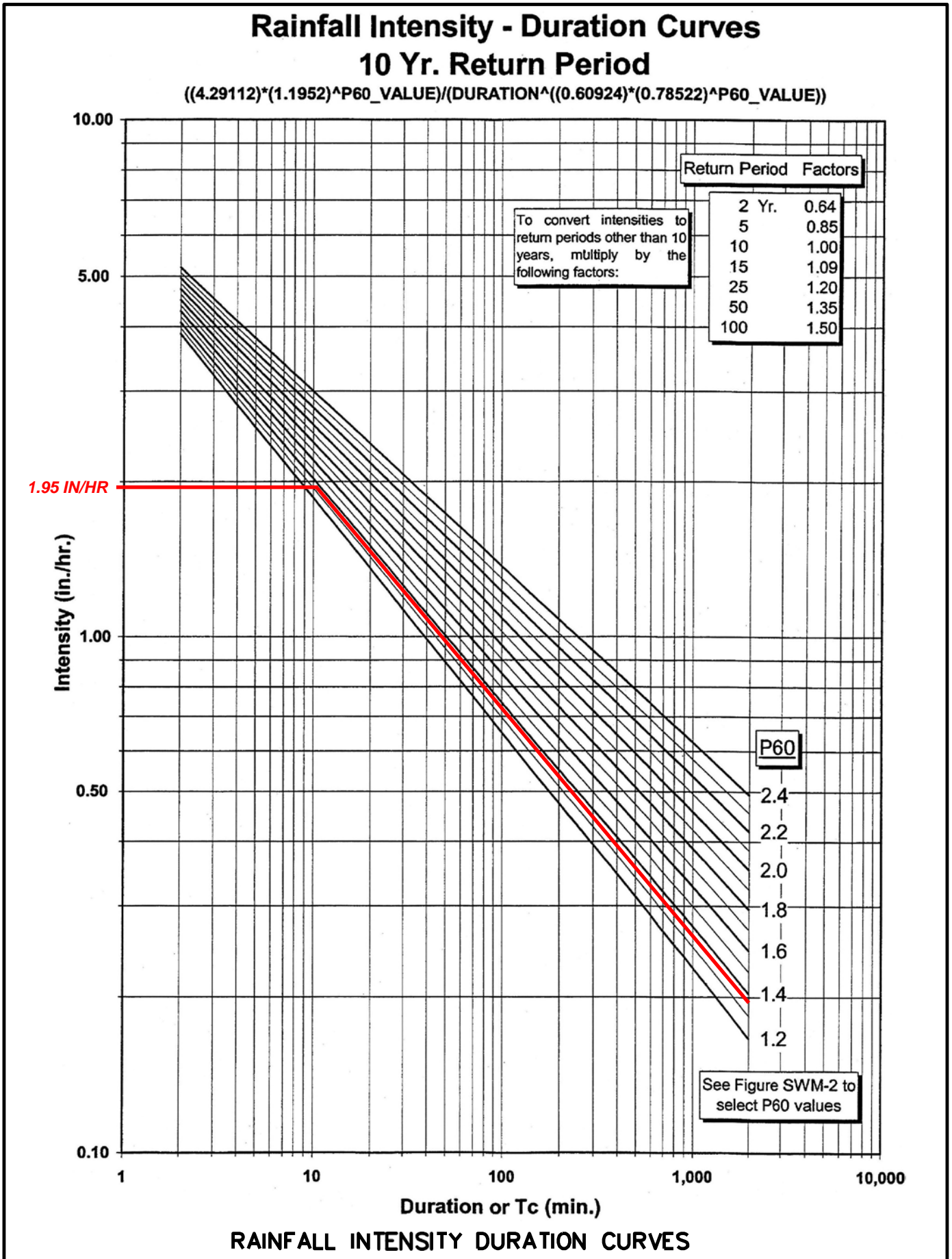


DOCKETED	
Docket Number:	26-OPT-02
Project Title:	Seahawk Battery Energy Storage System
TN #:	270271
Document Title:	Section 3-15 Appendices Part 2
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	5/27/2026 10:42:32 AM
Docketed Date:	5/27/2026

Figure SWM-3: Rainfall Intensity - Duration Curves



ATTACHMENT C

- Plan Sheet C4.1

NOT FOR CONSTRUCTION



IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

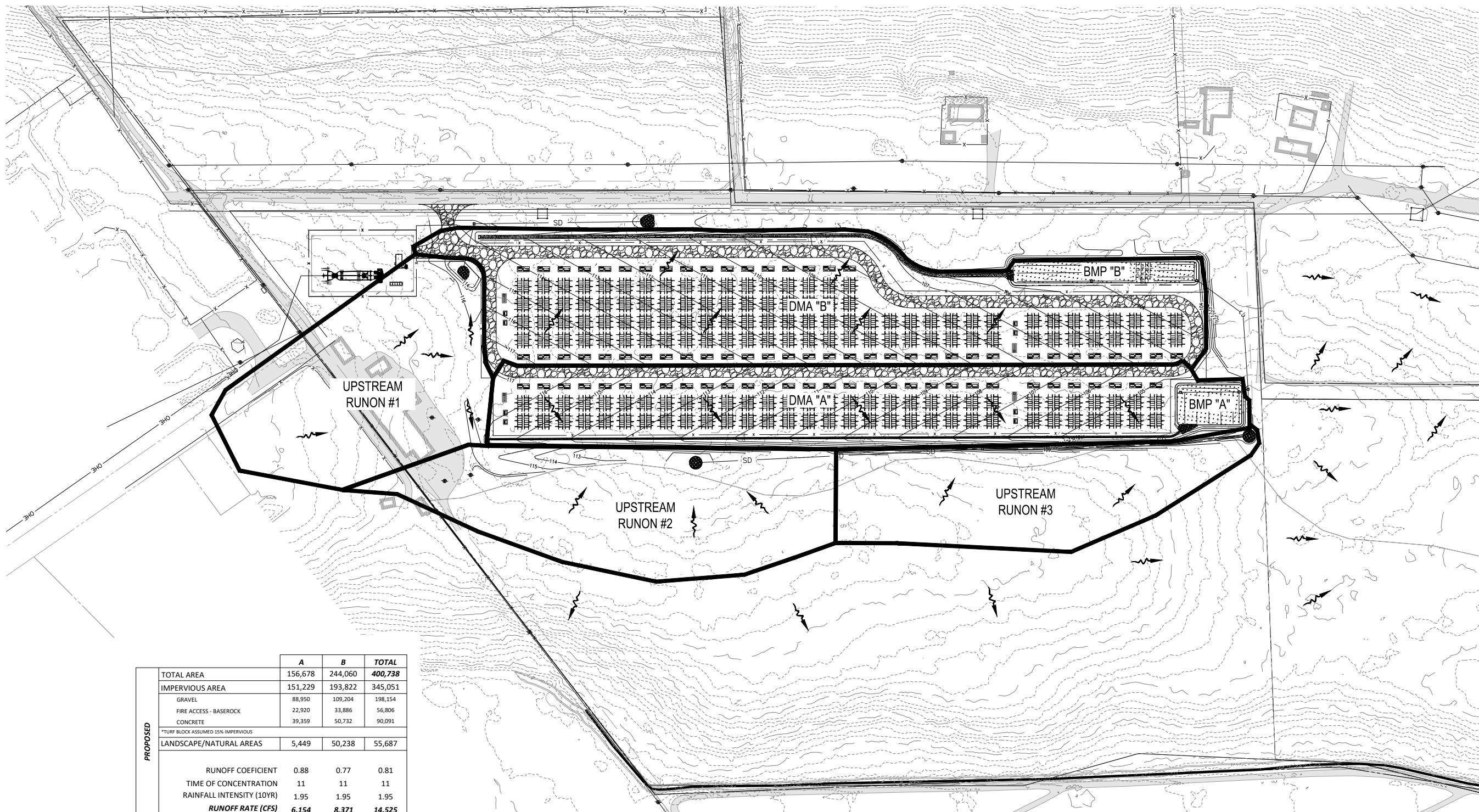
SEAHAWK ENERGY STORAGE
78 MINTO ROAD
WATSONVILLE CA, 95076

PROJECT NUMBER:
XXX-XXXX

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
	09/11/24	MRM		SITE CONTROL LAYOUT UPDATE

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

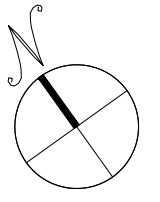
C-4.1
STORM WATER MANAGEMENT



	A	B	TOTAL
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 COEFFICIENT	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'



ATTACHMENT D

- Stormwater Calculations

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

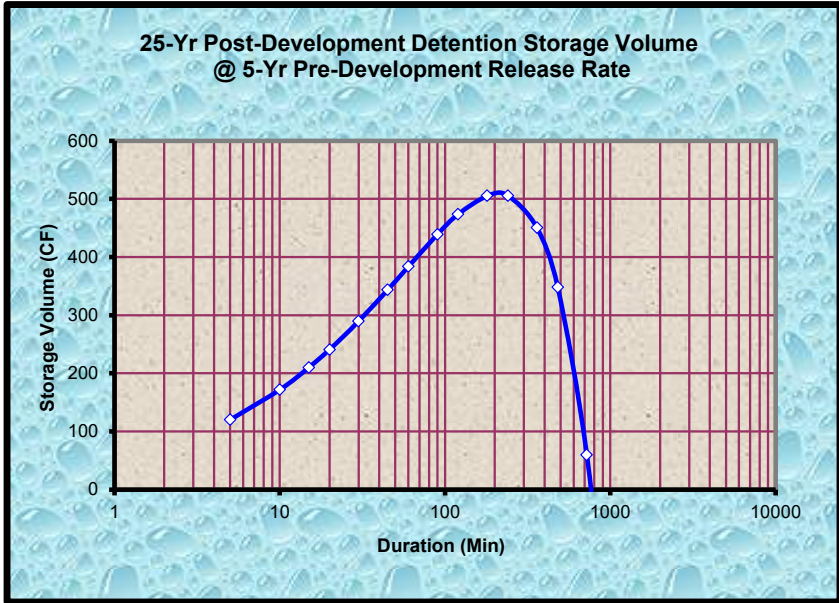
Data Entry: **PRESS TAB & ENTER DESIGN VALUES** Ver: 6.14.21

Site Location P60 Isopleth:	1.35	Fig. SWM-2 in County Design Criteria
Rational Coefficients Cpre:	0.25	See note # 2
Cpost:	0.90	See note # 2
Impervious Area:	106754 ft ²	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

10302	ft ³ storage volume calculated			
100	% void space assumed			
10302	ft ³ excavated volume needed			
Structure Ratios	Length	Width*	Depth*	*For pipe, use the square root of the sectional area
Dimen. (ft)	25.00	2.00	2.00	
	117.20	9.38	9.38	

25 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	25 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	25 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.27	0.117	0.655	-0.216	-23367
1200	0.29	0.127	0.710	-0.162	-14550
960	0.32	0.140	0.783	-0.088	-6371
720	0.36	0.159	0.889	0.017	923
480	0.43	0.190	1.062	0.191	6859
360	0.49	0.216	1.205	0.334	9010
240	0.59	0.258	1.441	0.569	10240
180	0.67	0.292	1.635	0.763	10302
120	0.80	0.349	1.954	1.082	9739
90	0.91	0.397	2.217	1.345	9082
60	1.08	0.474	2.650	1.778	8001
45	1.23	0.538	3.007	2.135	7206
30	1.47	0.643	3.594	2.722	6124
20	1.76	0.768	4.295	3.423	5135
15	1.99	0.872	4.874	4.002	4502
10	2.38	1.042	5.825	4.953	3715
5	3.23	1.413	7.899	7.028	2635



Notes & Limitations on Use:

- 1) The modified rational method, and therefore the standard calculations are applicable in watersheds up to 20 acres in size.
- 2) Required detention volume determinations shall be based on all net new impervious areas, both on and off-site, resulting from the proposed project. Pervious areas shall not be included in detention volume sizing; an exception may be made for incidental pervious areas less than 10% of the total area.
- 3) Gravel packed detention chambers shall specify on the plans, aggregate that is washed, angular, and uniformly graded (of single size), assuring void space not less than 35%.
- 4) A map showing boundaries of both regulated impervious areas and actual drainage areas routed to the hydraulic control structure of the detention facility is to be provided, clearly distinguishing between the two areas, and noting the square footage.
- 5) The EPA defines a class V injection well as any bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, or a subsurface fluid distribution system. Such storm water drainage wells are "authorized by rule". For more information on these rules, contact the EPA. A web site link is provided from the County DPW Stormwater Management web page.
- 6) Refer to the County of Santa Cruz Design Criteria, for complete method criteria.

RUNOFF DETENTION BY THE MODIFIED RATIONAL METHOD

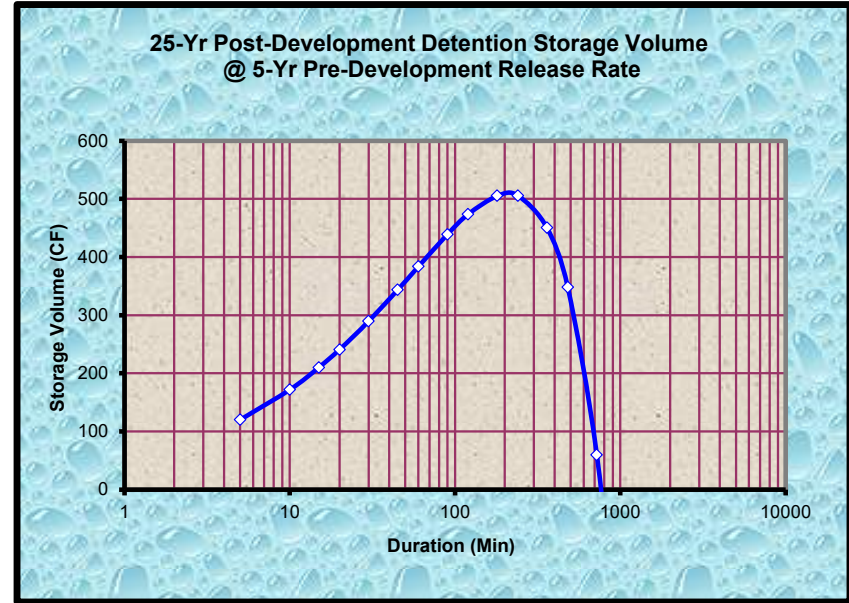
Data Entry: **PRESS TAB & ENTER DESIGN VALUES** Ver: 6.14.21

Site Location P60 Isopleth:	1.35	Fig. SWM-2 in County Design Criteria
Rational Coefficients Cpre:	0.25	See note # 2
Cpost:	0.90	See note # 2
Impervious Area:	193822 ft ²	See note # 2 and # 4

STRUCTURE DIMENSIONS FOR DETENTION

18704	ft ³ storage volume calculated			
100	% void space assumed			
18704	ft ³ excavated volume needed			
Structure Ratios	Length	Width*	Depth*	*For pipe, use the square root of the sectional area
Dimen. (ft)	25.00	2.00	2.00	
	142.97	11.44	11.44	

25 - YEAR DESIGN STORM				DETENTION @ 15 MIN.	
Storm Duration (min)	25 - Year Intensity (in/hr)	5 - Yr. Release Qpre (cfs)	25 - Year Qpost (cfs)	Detention Rate To Storage (cfs)	Specified Storage Volume (cf)
1440	0.27	0.213	1.190	-0.393	-42424
1200	0.29	0.231	1.289	-0.294	-26417
960	0.32	0.254	1.422	-0.161	-11567
720	0.36	0.289	1.614	0.031	1677
480	0.43	0.345	1.929	0.346	12453
360	0.49	0.391	2.189	0.606	16359
240	0.59	0.468	2.616	1.033	18592
180	0.67	0.531	2.968	1.385	18704
120	0.80	0.635	3.547	1.965	17681
90	0.91	0.720	4.026	2.443	16489
60	1.08	0.861	4.811	3.228	14527
45	1.23	0.977	5.459	3.877	13084
30	1.47	1.167	6.525	4.942	11119
20	1.76	1.395	7.798	6.215	9322
15	1.99	1.583	8.849	7.266	8174
10	2.38	1.892	10.575	8.992	6744
5	3.23	2.565	14.342	12.759	4785



Notes & Limitations on Use:

- 1) The modified rational method, and therefore the standard calculations are applicable in watersheds up to 20 acres in size.
- 2) Required detention volume determinations shall be based on all net new impervious areas, both on and off-site, resulting from the proposed project. Pervious areas shall not be included in detention volume sizing; an exception may be made for incidental pervious areas less than 10% of the total area.
- 3) Gravel packed detention chambers shall specify on the plans, aggregate that is washed, angular, and uniformly graded (of single size), assuring void space not less than 35%.
- 4) A map showing boundaries of both regulated impervious areas and actual drainage areas routed to the hydraulic control structure of the detention facility is to be provided, clearly distinguishing between the two areas, and noting the square footage.
- 5) The EPA defines a class V injection well as any bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, or a subsurface fluid distribution system. Such storm water drainage wells are "authorized by rule". For more information on these rules, contact the EPA. A web site link is provided from the County DPW Stormwater Management web page.
- 6) Refer to the County of Santa Cruz Design Criteria, for complete method criteria.



C2G / CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners

Restrictor Description: DMA #A
Project Name: **Seahawk**
Job Number: 3028.01
Date: December 9, 2024

RESTRICTOR SIZE, ORIFICE METHOD (Circular Opening)

	Value
1. HIGHWATER ELEVATION	101.25
2. INVERT ELEVATION	99.75
3. DIAMETER OF RESTRICTOR IN INCHES	5.50
4. CROSS SECTIONAL AREA, SQ. FT.	0.16
5. HEAD, FT.	1.27
6. DISCHARGE COEFFICIENT	0.50
<i>SQUARE EDGE 0.79 - 0.82</i>	
<i>ROUND EDGE 0.93 - 0.98</i>	
<i>SHARP EDGE 0.58 - 0.64</i>	
<i>PROJECTING 0.50</i>	
7. DISCHARGE, Q, CFS	0.746
8. ALLOWABLE RELEASE RATE, Q, CFS	0.872



C2G / CIVIL CONSULTANTS GROUP, INC.
Engineers/Planners

Restrictor Description: DMA #B
Project Name: **Seahawk**
Job Number: 3028.01
Date: December 9, 2024

RESTRICTOR SIZE, ORIFICE METHOD (Circular Opening)

	Value
1. HIGHWATER ELEVATION	101.25
2. INVERT ELEVATION	99.90
3. DIAMETER OF RESTRICTOR IN INCHES	8.50
4. CROSS SECTIONAL AREA, SQ. FT.	0.39
5. HEAD, FT.	1.00
6. DISCHARGE COEFFICIENT	0.50
<i>SQUARE EDGE 0.79 - 0.82</i>	
<i>ROUND EDGE 0.93 - 0.98</i>	
<i>SHARP EDGE 0.58 - 0.64</i>	
<i>PROJECTING 0.50</i>	
7. DISCHARGE, Q, CFS	1.578
8. ALLOWABLE RELEASE RATE, Q, CFS	1.583

Channel Report

DMA A - Channel

Trapezoidal

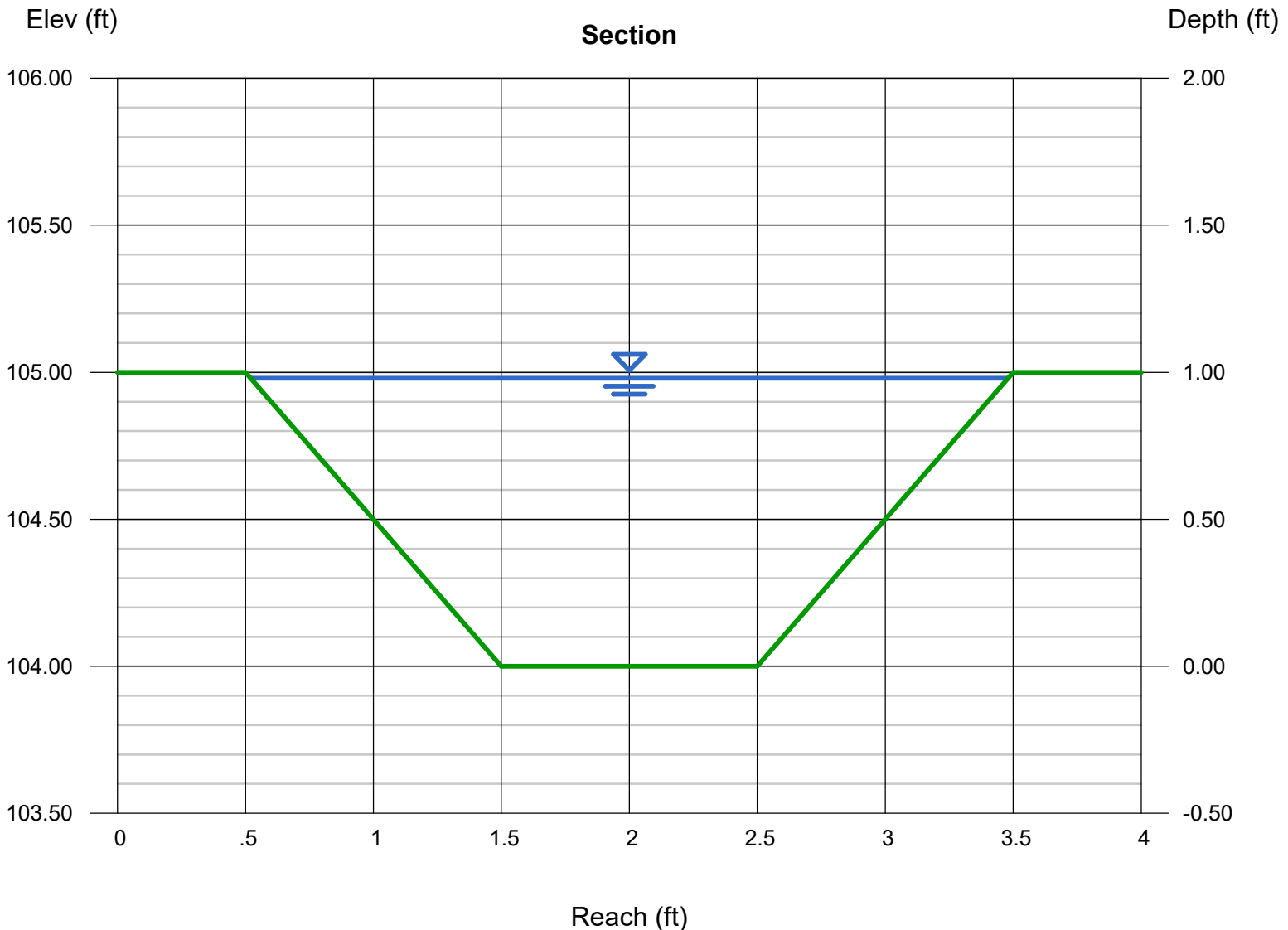
Bottom Width (ft) = 1.00
Side Slopes (z:1) = 1.00, 1.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 104.00
Slope (%) = 0.50
N-Value = 0.014

Highlighted

Depth (ft) = 0.98
Q (cfs) = 9.230
Area (sqft) = 1.94
Velocity (ft/s) = 4.76
Wetted Perim (ft) = 3.77
Crit Depth, Yc (ft) = 1.00
Top Width (ft) = 2.96
EGL (ft) = 1.33

Calculations

Compute by: Known Q
Known Q (cfs) = 9.23



Channel Report

DMA B - Channel

Trapezoidal

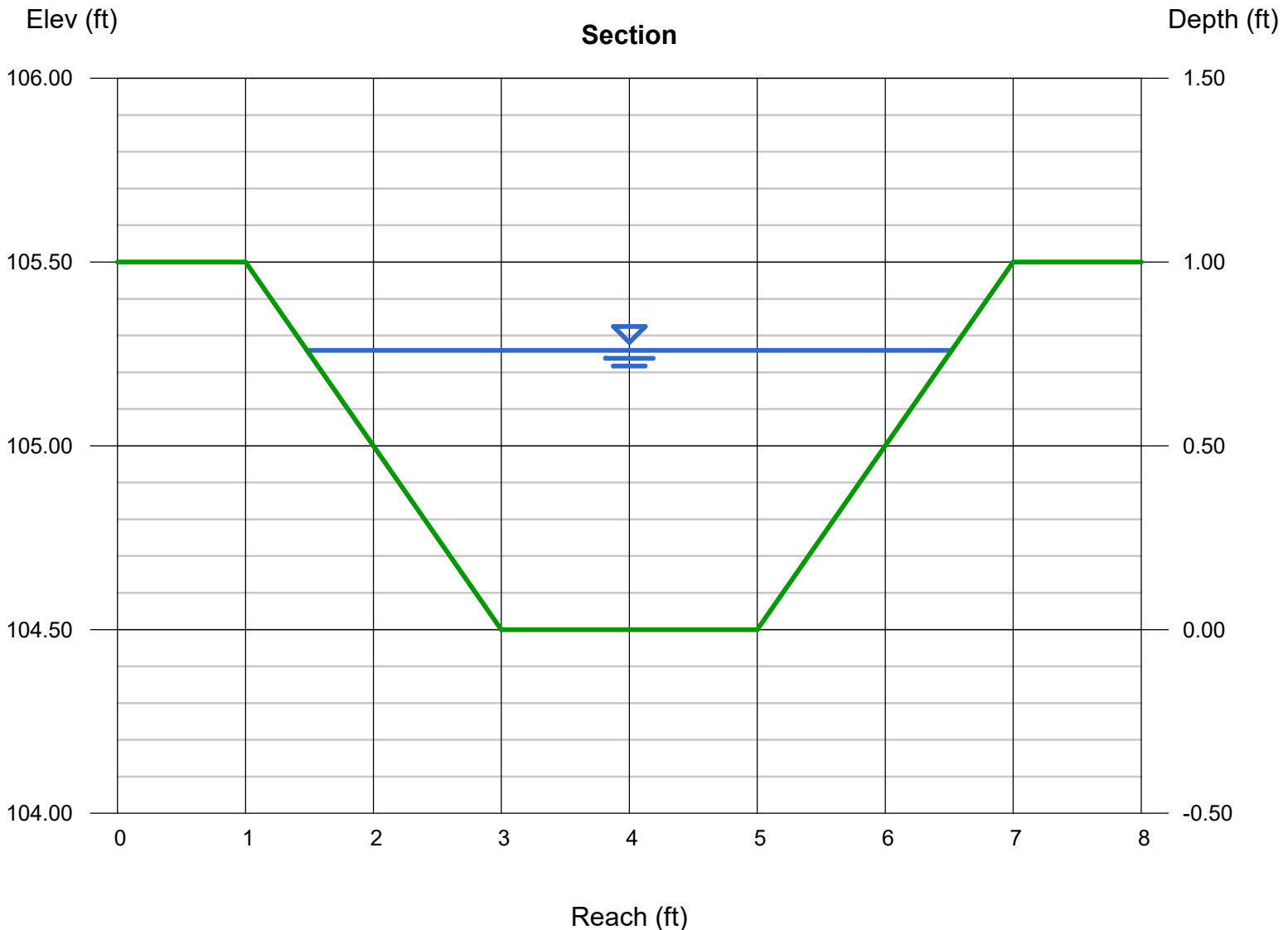
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 2.00, 2.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 104.50
Slope (%) = 0.50
N-Value = 0.014

Highlighted

Depth (ft) = 0.76
Q (cfs) = 12.56
Area (sqft) = 2.68
Velocity (ft/s) = 4.69
Wetted Perim (ft) = 5.40
Crit Depth, Yc (ft) = 0.82
Top Width (ft) = 5.04
EGL (ft) = 1.10

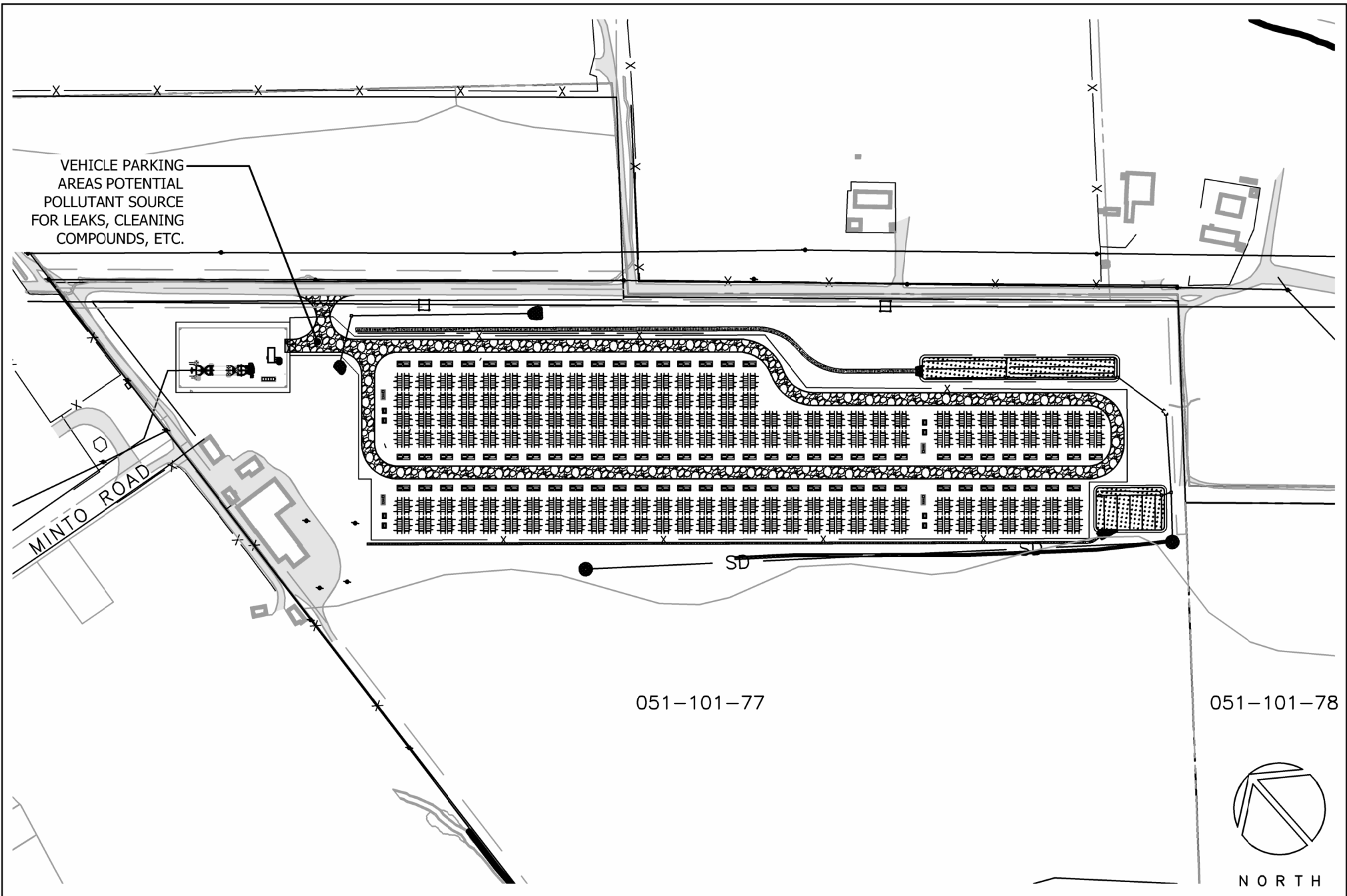
Calculations

Compute by: Known Q
Known Q (cfs) = 12.56



ATTACHMENT E

- Potential Pollutants Exhibit





C2G / CIVIL CONSULTANTS GROUP, INC.
 Engineers/Planners
 4444 Scotts Valley Drive / Suite 6
 Scotts Valley, CA 95066
 T (831) 438-4420
 F (831) 438-4420

**POTENTIAL POLLUTANT
 GENERATING ACTIVITIES**

DATE: 11.05.24
 DRAWN: DD
 SCALE: 1" = 200'
 SHEET: 1 OF 1

ATTACHMENT F

- Downstream Impact Analysis

Downstream Impact Report

***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



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 Introduction3

 Vicinity Map3

 Existing Drainage Patterns3

 Proposed Drainage5

LIST OF FIGURES

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Figure 2: Downstream drainage path4

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.

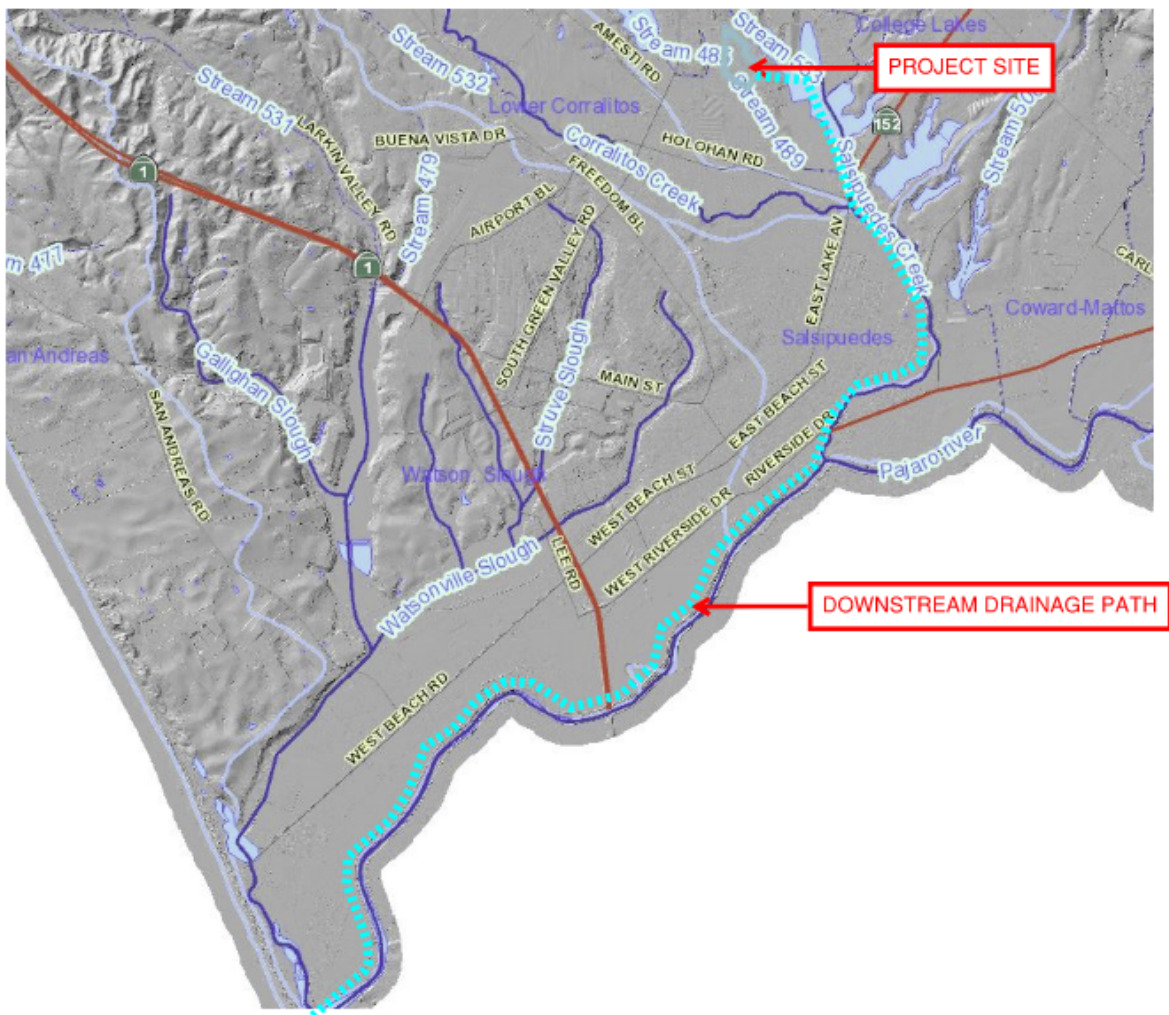


FIGURE 2: DOWNSTREAM DRAINAGE PATH

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 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.

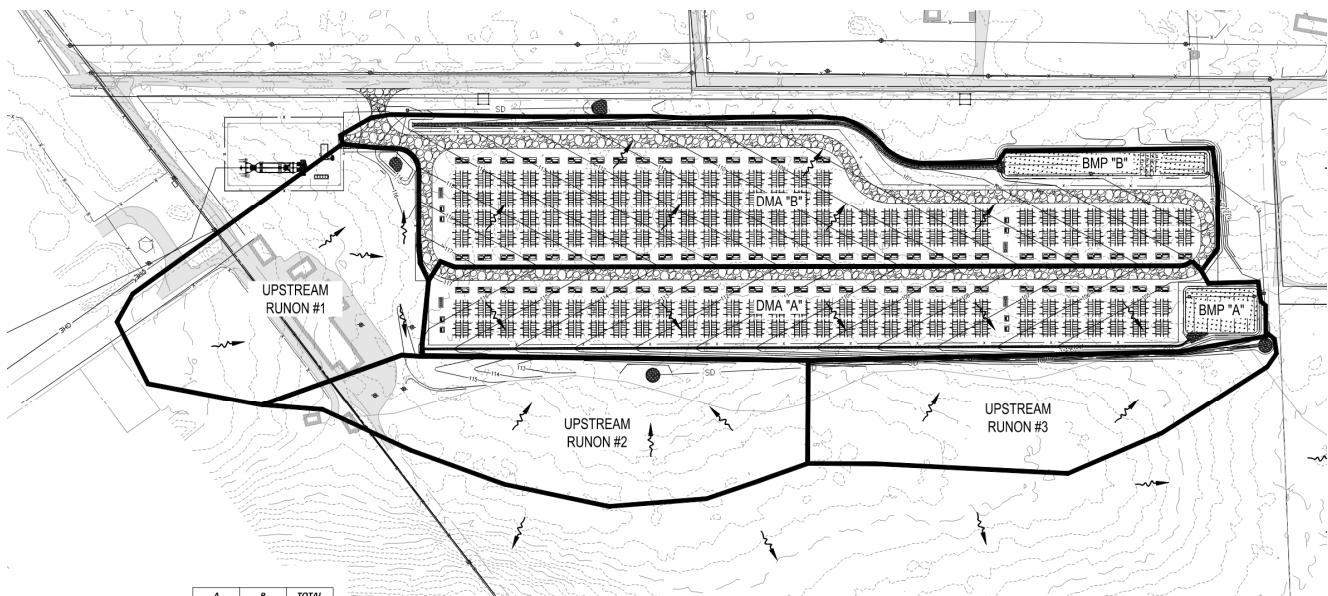


FIGURE 3: AREA OF POTENTIAL STORMWATER RUNON

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 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.

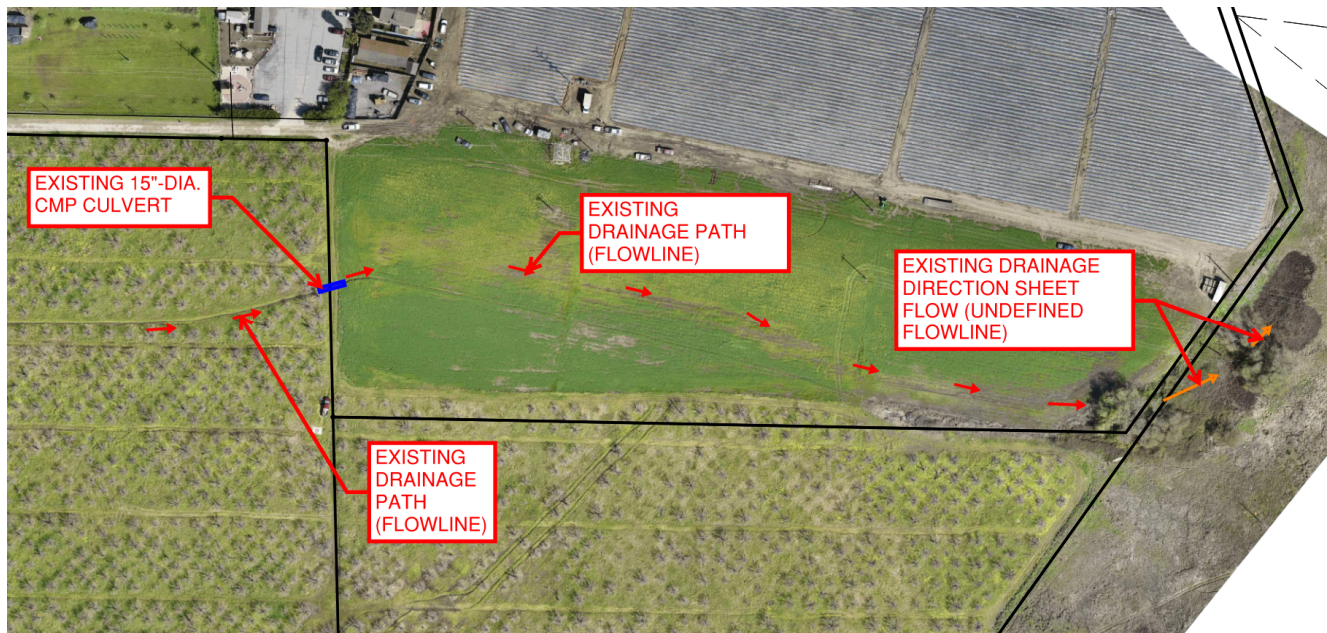


FIGURE 4: EXISTING DRAINAGE PATTERNS ON DOWNSTREAM PROPERTY

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

$$Q(10\text{-yr}) = 8.149 \text{ CFS}$$

$$Q(50\text{-yr}) = 11.012 \text{ CFS}$$

$$Q(100\text{-yr}) = 12.245 \text{ CFS}$$

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.

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.

Channel Report

Project Name: Seahawk

Studio Express by Hydrology Studio v 1.0.0.15

12-10-2024

Swale

Channel 1

PARABOLIC

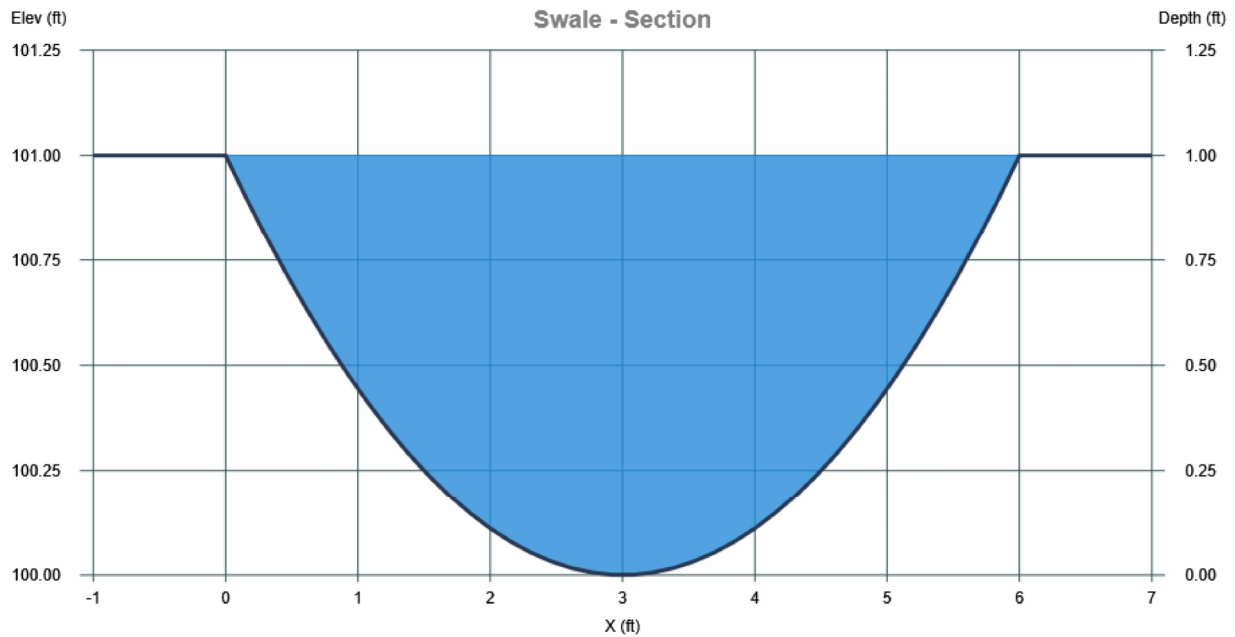
Top Width = 6.00 ft
Total Depth = 1.00 ft
Invert Elevation = 100.00 ft
Channel Slope = 2.000 %
Manning's n = 0.040

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



ATTACHMENT G

- Stormwater Threshold - Appendix A Form

Appendix A - Project Information & Threshold Determination Form



STORMWATER CONTROL PLAN (SWP) - Project Information & Threshold Determination Form

Completion of this form shall be used as guidance by the applicant

All projects shall maintain pre-development runoff rates & patterns

For any questions on this form, please contact DPW Stormwater Management at 831-454-2160.

PROJECT & CONTACT INFORMATION

<u>90 Minto Road, Watsonville, CA</u>	<u>Building Permit No./Discretionary Application</u>
<i>Project Street Address</i>	<i>Seahawk Battery Storage</i>
<u>William Peregoy</u>	<u>Project Name (Alias)</u>
<i>Property Owner's/Representative Name</i>	<u>New Leaf Energy</u>
<u>051-101-77 & 78</u>	<u>Property Owner/Representative's Firm</u>
<i>Assessor's Parcel No (APN)</i>	<u>978-995-3054</u>
<u>David Dauphin</u>	<u>Property Owner/Representative's Phone No.</u>
<i>Applicant's Name (i.e. design professional)</i>	<u>C2G / Civil Consultants Group, Inc.</u>
<u>Flood Control District</u>	<u>Applicant's Firm Name</u>
<i>Flood Control District (if applicable):</i>	<u>831-438-4420</u>
	<i>Applicant's Phone No.</i>

PROJECT DESCRIPTION

<u>Lot Coverage</u>	<u>Actual</u>	<u>Adjusted</u>	
A. Total lot size:	1,611,720 sq.ft.		Total replaced impervious & semi-impervious area: <u>0</u> sq.ft.
B. Existing Permitted Impervious Area:	<u>11,246</u> sq.ft.		
C. Replaced permitted impervious area:	<u>0</u> sq.ft.		Total proposed impervious & semi-impervious area: <u>345,051</u> sq.ft.
D. Replaced permitted semi-impervious* area:	<u>0</u> sq.ft.	<u>0</u> sq.ft.	
D. Total proposed self-treating area:	<u>0</u> sq.ft.		
E. Proposed impervious area:	<u>345,051</u> sq.ft.		
F. Proposed semi-impervious* area:	<u>0</u> sq.ft.	<u>0</u> sq.ft.	
Project Threshold Classification	<u>345,051</u> sq.ft.		

- Small Project (less than 500 sq.ft. created and/or replaced) - Use Appendix B 'Small Project Submittal Requirements' for submittal requirement guidance.
- Medium Project (more than 500 sq.ft. but less than 5,000 sq.ft. created and/or replaced) - Use Appendix C 'Medium Project Submittal Requirements' for submittal requirement guidance.
- Large Project (more than 5,000 sq.ft. created and/or replaced OR 50% increase in permitted impervious area**) - Use Appendix D 'Large Project Submittal Requirements' for submittal requirement guidance.

Application is part of a phased project OR master plan?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Application will maintain pre-development runoff patterns?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Application is unable to comply with Part 3 of the Design Criteria requirements & is electing to request a waiver(s) Please provide a brief description (below):	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

*Form will apply a 50% credit for semi-impervious areas as final count. Applicant shall not apply the credit.
 ** Projects that add more than 50% impervious area coverage are required to mitigate the entire site.
 ***Disclaimer: Permit review is based the information provided, additional clarification may be required for undisclosed/unidentified areas. Unaccounted areas may reclassify the project threshold.

For SCC DPW Use Only: Received: _____ Reviewed: _____ Not Approved Approved

Appendix 3.15D

Water Supply Assessment

Water Supply Assessment

Seahawk Battery Energy Storage System Project

DECEMBER 2025

Prepared for:

NEW LEAF ENERGY, INC.

Project Applicant

55 Technology Drive, Suite 102
Lowell, MA 01851

Prepared by:

DUDEK

605 Third Street
Encinitas, California 92024
*Contact: Eric Schniewind
Devin Pritchard-Peterson*

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AF	acre-feet
AFY	acre-feet per year
BESS	battery energy storage system
City	City of Watsonville
CWC	California Water Code
DWR	California Department of Water Resources
ETI	landscape evapotranspiration
ETo	reference evapotranspiration
GSA	groundwater sustainability agency
GSP	groundwater sustainability plan
KI	landscape coefficients
mg/L	milligrams per liter
Project	Seahawk Battery Energy Storage System Project
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act of 2014
TDS	total dissolved solids
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment

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1 Introduction

1.1 Purpose of Document

Senate Bill (SB) 610 was passed on January 1, 2002, amending the California Water Code (CWC) to require detailed analysis of water supply availability for certain types of development projects. The primary purpose of SB 610 is to improve the linkage between water and land use planning by ensuring greater communication between water providers and local planning agencies, and to ensure that land use decisions for certain large development projects are fully informed as to whether a sufficient water supply is available to meet project demands. SB 610 requires preparation of a Water Supply Assessment (WSA) for a project that is subject to the California Environmental Quality Act and meets certain requirements. SB 610 is codified in CWC Division 6, Part 2.10 (Sections 10910–10915).

The Seahawk Battery Energy Storage System (BESS) Project (Project) has been determined to be subject to the California Environmental Quality Act, with the California Energy Commission acting as lead agency via the Assembly Bill 205 Opt-In Certification licensing process. The Project satisfies the statutory definition of a “project” for the purpose of determining SB 610 applicability because it is both an industrial project on more than 40 acres¹ and will have more than 650,000 square feet of floor area (CWC Section 10912(a)(1)). The lead agency will make an independent determination as to whether there is adequate water supply for the proposed Project, having considered the entire administrative record. In compliance with SB 610, this WSA examines the availability of the identified water supply during normal, single dry, and multiple dry water years over a 20-year projection, accounting for the projected water demand of the Project plus other existing and planned future uses of the identified water supply.

1.2 Project Location and Description

The Project would be located at assessor’s parcel numbers 051-101-77 and 051-101-78 on approximately 47 acres of land currently used for agricultural operations in Santa Cruz County, California adjacent to the City of Watsonville. The Project site is approximately one mile north of the City of Watsonville and east of the intersection of Minto Road and Green Valley Road. The Project is within the USGS 7.5-minute Watsonville West Quadrangle, Township 11S, Range 2E, Mount Diablo Principal Meridian, Section 28 (Figure 1, Project Site Plan).

The Project would interconnect to the existing PG&E Green Valley Substation from the proposed collector substation, via a proposed approximately 0.22-mile, 115 kilovolt (kV) gen-tie. The gen-tie line would cross Minto Road, then primarily be located parallel to the existing Minto Road right of way (ROW) until routing north to the point of interconnection (POI) at Green Valley Substation. Underground gen-tie wires that would be trenched will occur from the onsite collector substation (underneath the Minto Road ROW) to the PG&E property. Interconnection (via overhead or underground) to the PG&E Green Valley substation will be determined by PG&E.

¹ It is understood that the Project will be located on a 47-acre property but will only occupy a 16-acre portion of the site.

1.3 Water Supply Assessment Applicability

SB 610 amended CWC Sections 10910 and 10912 to create a direct relationship between water supply and land use. SB 610 establishes the legal framework for assessing the sufficiency of water supply for new developments that qualify as a “project”. Per CWC Section 10912(a), a “project” means any of the following:

- Proposed residential development of more than 500 dwelling units.
- Proposed shopping center or business establishment employing more than 1,000 persons, or having more than 500,000 square-feet of floor space.
- Proposed commercial office building employing more than 1,000 persons or having more than 250,000 square-feet of floor space.
- Proposed hotel or motel or both, having more than 500 rooms.
- Proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square-feet of floor area.
- Proposed mixed-use project that includes one or more of the above components.
- Proposed project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The CWC, as amended by SB 610, requires that a WSA include a discussion of whether:

- The project will be served by a public water system (CWC Section 10910(b)).
- The project water demand is included in a current Urban Water Management Plan (UWMP) (CWC Section 10910(c)).
- There are any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project (CWC Section 10910(d)).
- Groundwater will serve as a source of water supply for the project (CWC Section 10910(f)).

Based on the characterization of these water supplies and constraints, the WSA is required to provide a discussion of whether the total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses (CWC Section 10910(b)(3) and (4)).

As a proposed industrial project that would be located on a 47-acre site and have a floor area of more than 650,000 square feet, the Project qualifies as a “project” under CWC Section 10912(a). Accordingly, the proposed Project is subject to SB 610 and requires preparation of a WSA.

1.3.1 Identification of a Public Water System

Section 10912 of the CWC defines a “public water system” as a system that has 3,000 or more service connections and provides piped water to the public for human consumption. Under SB 610, WSA reports must be prepared and furnished to local governments by the water utility serving that community for inclusion in any environmental documentation for projects meeting the specified requirements under Section 10912(a) of the CWC and subject to

the California Environmental Quality Act. According to CWC Section 10910(g)(1), “the governing body of each public water system, or the city or county if either is required to comply with this act ... shall approve the assessment prepared pursuant to this section at a regular or special meeting.” According to SB 610, the public water system serving the Project site is required to prepare the WSA report.

While the Project site is located in unincorporated Santa Cruz County, within the service area of Pajaro Valley Water Management Agency, referred to herein as PV Water (Figure 3), it is also immediately adjacent to east of the City of Watsonville’s (City’s) service area boundary. Water supply for the Project fire suppression system and irrigation would be supplied by the City.

The City’s water supply is groundwater and surface water. The surface water is the Corralitos and Browns Creeks. The City is not always able to withdraw water from the creeks but can rely on groundwater for all of its water supply. The City pumps groundwater from the Pajaro Valley Groundwater Subbasin (Subbasin; DWR Basin No. 3-002.01). Groundwater resources in the Subbasin have been managed by PV Water since the agency’s formation in 1984. The City works collaboratively with PV Water on a number of projects related to water resources management.

1.3.2 Urban Water Management Plan Coverage

Urban Water Management Plans (UWMPs) are prepared by California’s urban water suppliers to support long-term resource planning and ensure adequate water supplies. UWMPs must be updated and submitted to the California Department of Water Resources (DWR) every five years for review and approval. DWR has identified the UWMP as a foundational document in the preparation of a WSA, noting that a thorough UWMP can provide the required information to fulfill the standards set forth by SB 610. Every urban water supplier that either delivers more than 3,000 acre-feet per year (AFY) of water annually or serves more than 3,000 connections is required to assess the reliability of its water sources over a 20-year period during normal, single dry, and multiple dry water years; these are the same requirements of a WSA as specified by SB 610. A WSA may also rely on additional water supply data beyond the information in the UWMP.

The City’s 2020 UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, water supplies, and the resulting reliability during a set of defined water supply conditions over a 20-year planning horizon (City of Watsonville 2021). A description of the City’s 2020 UWMP, as well as other applicable water resources plans, is provided in Section 5, Water Management Plans and Programs, of this WSA. This WSA uses information provided in the City’s 2020 UWMP to assess water supply availability for the Project.

1.3.3 Groundwater as a Component of Project Water Supply

Groundwater makes up an important portion of the City’s water supply. As noted above, the City pumps groundwater from the Subbasin where the City’s uses account for about 14 percent of the total annual pumping from the Subbasin. The Subbasin is designated as “critically overdrafted” according to the definition provided in the 2014 Sustainable Groundwater Management Act (SGMA). Groundwater overdraft occurs when groundwater use exceeds the amount of recharge into an aquifer, which leads to a decline in groundwater levels. PV Water prepared, and is actively implementing, a Basin Management Plan to prevent further increase in long-term overdraft and manage the Subbasin sustainably. PV Water and other local agencies are working collaboratively to repurpose agricultural land to reduce reliance on groundwater while providing community health, economic wellbeing, water supply, habitat, renewable energy, and climate benefits. As discussed in Sections 2 and 5, the proposed Project aligns with PV Water’s goals and will help to decrease water demand in the Subbasin.

1.3.4 Sufficiency of Supplies Over the Next 20 Years

As described in Section 6, Water Supply Assessment, there is adequate water available to supply the proposed Project during normal, single dry, and multiple dry water years during a 20-year projection, in addition to existing and planned future uses of the identified water supply.

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2 Water Demand

2.1 Existing Water Demand

The Project site has historically been and is currently used as an apple orchard. Irrigation demands are satisfied by an existing onsite groundwater well. There is also an existing residence which has a connection to the City's water supply. On average, the existing tenant uses an estimated 35 AFY to irrigate the 47-acre property for an approximate rate of 0.75 AFY per acre (Dobler, pers. Comm. 2025). As a result, the 16-acre portion of the Project site currently requires on average 12 AFY. According to the City's 2020 UWMP, residential water demands average 0.29 AFY per household unit (City of Watsonville 2021).

2.2 Project Water Demand

The Project involves the construction of a BESS facility on approximately 16-acres of the 47-acre site. Water demands for the Project will consist of water for construction (primarily dust control), fire suppression, and irrigation of landscaping. The water for landscaping, including trees, shrubs, and a seed mix for the basin and swale as well as for the fire suppression system would be supplied by water by tying into the existing City water line. Water supply for the remaining orchard surrounding the BESS facility would continue to be supplied by the existing onsite well. The BESS facility will be operated remotely and have no onsite staff outside of periodic maintenance visits, which would use the existing residence as an office. The fire suppression system will require routine testing to ensure adequate capability in the event of an emergency.

For construction, an estimated 4.1 million gallons (approximately 12.6 AF) would be required for dust suppression, soil compaction, and grading. Water for construction would be trucked onsite from a local water purveyor.

For the fire suppression system, two on-site fire hydrants to accommodate flow rates of 2,000 gallons per minute would be installed as part of the Project (Figure 1). Fire code regulations require that these hydrants are tested annually to ensure working condition and then are given more thorough pressure and flow rate tests every 5 years. For the purposes of estimating water demands associated with testing, it is assumed that the hydrants would be opened for 5 minutes each year and then run for 15 minutes during the 5-year inspection to measure pressure and flow rates. As a result, the annual demand is estimated to be 20,000 gallons.² For the 5-year test, the demand would be 60,000 gallons. Amortized over 5 years would be 28,000 gallons a year or 0.086 AFY.

The BESS facility would include landscaping with screening shrubs and trees and cover seed mix (basin and swale mix). According to the proposed plans, the following trees and category of plants along with the square footages is proposed:

- Hollyleaf Cherry (*Prunus ilicifolia*) – 81 trees over 39,771 square feet (sq.ft.)
- Santa Cruz Island Ironwood (*Lynothamnus floribundus* ssp. *aspenfolius*) – 26 trees over 8,792 sq.ft.
- Coast Live Oak (*Quercus agrifolia*) – 67 trees over 57,084 sq.ft.

² 2,000 gpm x 5 minutes x 2 hydrants = 20,000 gallons

- Screening shrubs – 23,319 sq.ft.
- Shade tolerant screening shrubs – 4,815 sq.ft.
- Screening shrubs under 10 feet – 1,718 sq.ft.
- Basin and swale seed mix – 131, 299 sq.ft.

The water demand for the proposed landscaping is based on using the landscape evapotranspiration (ETI) method which relies on the following equation:

$$ETI = ETo \times Kl$$

Where:

ETI = landscape evapotranspiration
ETo = reference evapotranspiration
Kl = landscape coefficient

Reference evapotranspiration (ETo) is based on the potential evapotranspiration from turf grass/alfalfa crop. According to the reference evapotranspiration zones map of California developed by the California Irrigation Management Information System, the Project site is located in ETo Zone 2, with a total of 39 inches of ETo per year (Table 1; DWR 2012).

Table 1. Monthly Average Reference Evapotranspiration for Zone 2

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1.24	1.68	3.10	3.90	4.65	5.10	4.96	4.65	3.90	2.79	1.80	1.24	39.0

Source: DWR 2012.

Notes: All values are in inches.

Landscape coefficients (Kl) are numbers specific to each landscaping plant type used to estimate ETI by multiplying ETo by Kl, as shown in the equation above. Landscape coefficients were selected based on the known species types currently proposed for the Project site and estimated factors for the general categories listed above (e.g., screening shrubs, basin and swale seed mix) and data compiled by University of California Davis known as WUCOLS (UC Davis 2000).

Other factors that can affect water demands for irrigation include vegetation density and microclimate conditions. Vegetation density is only categorized by whether it is low, average, or high and current design plans will tend to use average densities, which has been assumed for the proposed Project. An “average” microclimate condition is equivalent to reference evapotranspiration conditions, i.e., an open-field setting without extraordinary winds or heat inputs atypical for the location and not substantially affected by nearby buildings, structures, pavements, slopes, or reflective surfaces. The Project site would likely be categorized as an average microclimate because of the surrounding orchard and low development density.

Therefore, the resultant Landscape coefficient is calculated by the following formula:

$$Kl = Ks \times Kd \times Kmc$$

Where:

- Kl* = landscape coefficient
- Ks* = species factor
- Kd* = landscape density
- Kmc* = microclimate

Table 2. Landscape Planting Types and Coefficients

Crop Type	Landscape Coefficient			
	Ks	Kd	Kmc	Kl
Hollyleaf Cherry	0.20	1	1	0.20
Santa Cruz Island Ironwood	0.50	1	1	0.50
Coast Live Oak	<0.1	1	1	0.10
Shrubs/Swale Seed Mix	0.2	1	1	0.20

Note: Ks factors of <0.1 are generally negligible but were conservatively assumed to be 0.10
Source: UC Davis 2025.

Landscape evapotranspiration is also affected by irrigation method, soil type, percent land cover, and depth to groundwater. For the purposes of estimating proposed landscape demands at the Project site, several simplifying assumptions were made:

- Irrigation water is applied through drip irrigation with an assumed 90% efficiency.
- Rainfall is not a source of water for the crops, but the irrigation would only be for 6 months a year.
- The groundwater table is beyond the rooting zone of the crops.
- The conversion factor of 0.62 is used to convert inches of water per square foot to gallons.
- An acre-foot has 325,851 gallons.

Based on the crop types, crop coefficients, and simplifying assumptions described above, the estimated annual proposed water demand at the Project site for landscaping would be approximately 3.67 AFY (Table 3). This landscaping would be irrigated by drip irrigation which generally has an irrigation efficiency of 90%. As a result, applying this efficiency rate to the proposed Project would equate to a total irrigation demand of 4.1 AFY (Table 4).

Table 3. Landscape Evapotranspiration and Estimated Proposed Water Demand Summary

Crop Type	Kl	Average ETo (in/mo)	ETI (in/mo)	Irrigation Period (mo)	Area (Sq.Ft.)	Annual Water Demand (AFY)
Hollyleaf Cherry	0.20	4.34	0.868	6	39,771	0.39

Santa Cruz Island Ironwood	0.50	4.34	2.17	6	8,792	0.22
Coast Live Oak	0.1	4.34	0.434	6	57,084	0.46
Shrubs/Swale Seed Mix	0.2	4.34	0.868	6	163,151	2.6
					Total	3.67

Source: CIMIS 2025.

Notes: KI = landscape coefficient; ETo = reference evapotranspiration; ETl= landscape evapotranspiration; in = inches; mo = month; ft = feet; AFY = acre-feet per year.

Table 4. Project Water Demand

Unit Type	Number of Units	Irrigation Efficiency	Total Water Demand (AFY)
Construction			
Annual Construction Rate	—	—	8.4
Operation			
Irrigation Demand	3.67	0.9	4.1
Fire Suppression System Testing	n/a	n/a	0.086
Total Operational Demand	—	—	4.2

Notes: AFY = acre-feet per year (one acre-foot is equal to 325,851 gallons), the total of 4.186 was rounded up to 4.2 AFY. Construction demand would total 12.6 AF for an 18-month period which is the equivalent to 8.4 AFY.

The total construction demand is estimated to be 12.6 AF for an 18-month construction period, or 8.4 AFY. Following the construction period, the operational demands would consist of irrigation and fire suppression system testing. Combining the fire system testing demand with the landscape irrigation demand equates to 4.186 AFY or rounded up to 4.2 AFY. Therefore, the Project is estimated to require approximately 4.2 AFY during operation, which would represent a 65% decrease from the estimated average existing Project site water demand of 12 AFY for the 16-acre portion of the site that the proposed facilities would occupy. The surrounding areas of the proposed BESS facility would remain an apple orchard and its demand would not change.

Over a 20-year period, the total demand for the Project would be 90.3 AF or an amortized amount of 4.5 AFY.

3 Climate

The Project site experiences a Mediterranean climate with warm, dry summers and mild winters. Average maximum temperatures in the summer are in the low 70s degrees Fahrenheit and average minimum temperatures in the winter are in the upper 30s to low-40s degrees Fahrenheit (WRCC 2025). Average total annual precipitation is approximately 21 inches with most precipitation falling between the months of November and April each year (WRCC 2025). Precipitation varies significantly from year-to-year, with measured annual totals ranging from 10.66 inches in 1976 to 48.35 inches in 1983 (WRCC 2025).

Projected future climate conditions in California indicate gradual warming, with a strong increase in extremely hot days relative to historical norms, and greater year-to-year precipitation variability. Warming of 2°C to 7°C (approximately 3.6°F to 12.6°F) is expected by the end of the century (Pierce et al. 2018). Additionally, there will be fewer wet days, but increased precipitation on the wettest days (i.e., wetter winters and drier spring and autumn), resulting in modest annual precipitation changes but an increase in the frequency of dry years (Pierce et al. 2018).

The influence of climate on water supply availability is considered in Section 6, Water Supply Assessment, when assessing whether the total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand of the proposed Project, in addition to existing and planned future uses.

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4 Water Resources

4.1 Surface Water

The Project site is located in the Salsipuedes Creek watershed, which is tributary to the Pajaro River (Figure 2, RWQCB Hydrologic Setting). Other surface waters in the watershed include Amesti, Casserly, and CCC Creeks as well as a seasonal lake, known as College Lake, located approximately 500 feet east of the Project site. The closest surface water features to the Project site are College Lake when water is present, otherwise Pinto Lake is located approximately ½ mile to the west of the site.

During years of average or above average rainfall, the City exercises its pre-1914 water rights (S010141 and S010142) to surface water diversions from Corralitos and Brown creeks, which are located north of the City limits (City of Watsonville 2021). The surface water diversions flow to the Corralitos Filter Plant (CFP) and are treated via slow sand filtration and disinfection. When operational, the CFP treats up to 900 AFY, though it has a maximum design capacity of 2 million gallons per day (MGD). Its operation is limited by the amount of surface water available in the Corralitos and Browns creeks. The CFP operates seasonally, typically starting in late spring through the fall. During the rainy season, the CFP is usually shut down due to the high turbidity of the creek at the intake (City of Watsonville 2021). High turbidity is not conducive to the efficiency of a slow sand filtration plant. The City only collects and treats surface water when the creek water turbidity is equal to or less than 10 Nephelometric Turbidity Units (NTU). In general, surface water comprises anywhere from 0 to 10 percent of the City's total water supply (City of Watsonville 2021).

4.2 Groundwater

The Project overlies the Pajaro Valley Groundwater Subbasin, which covers an area of approximately 120 square miles (Figure 3, Groundwater Basins and Water Agency Boundaries) (PV Water 2021). The coastal Pajaro Valley straddles southern Santa Cruz County and northern Monterey County. The Subbasin is bordered on the northeast by the coastal Santa Cruz Mountains and on the southwest by the Pacific Ocean. The northern boundary of the valley is generally considered to be the drainage divide between the Aptos Creek watershed and the Pajaro River watershed; the southern boundary of the valley is generally considered to be the drainage divide between Elkhorn Slough and Morro Coho Slough (PV Water 2021).

Hydrogeologic Setting

The basic geologic structure of the Pajaro Valley is characterized by a basement of granitic rocks overlain by westward dipping Purisma Formations and the Aromas Red Sands Formation (PV Water 2014). The Purisma Formation underlies the valley at depths ranging from at or near land surface along the northern and eastern boundaries, to as much as 900 feet below the land surface near the mouth of the Pajaro River. The Aromas Red Sands is a major aquifer within the valley and overlies the Purisma Foundation. The aquifers within the groundwater basin are interspersed with clay layers that vary from impermeable to semipermeable and limit the vertical movement of water (PV Water 2014).

Groundwater recharge is the result of complex interactions between land cover and slope, soils, geology, and other physical conditions. The primary sources of recharge to the Pajaro Valley groundwater basin are (1) infiltration of

rainfall, (2) seepage of streamflow from the Pajaro River and its tributaries, and (3) percolation of irrigation water (PV Water 2014). The variation in precipitation and streamflow influences how and when the Pajaro Valley groundwater basin is recharged. Although there is a large capacity for groundwater storage in the Pajaro Valley groundwater basin, the amount of water that can recharge the aquifer is limited by the valley's hydrogeologic conditions. Even in very wet years, the Pajaro River and creeks such as the Corralitos and Salsipuedes provide only a limited percentage of water to groundwater storage in the basin because of the presence of the impermeable clay layers.

Groundwater Levels

Historically, groundwater levels in the Subbasin were higher than today in inland areas. In places along the coast, some wells flowed artesian; meaning groundwater levels were high enough at times in past years that groundwater surfaced in some of the coastal areas (PV Water 2014). Under such conditions, the pressure and seaward gradient of freshwater in the aquifer was able to prevent intrusion of seawater. By the 1940s, following the major development of groundwater resources to support a growing agricultural industry, some wells would still flow artesian, but only during winter. By the 1970s, water levels west of Watsonville were consistently below sea level from approximately May to December, often never recovering to levels above sea level, providing the conditions necessary for seawater intrusion. The more recent trend has been for groundwater to move from both the recharge areas near the PV Water's northern boundary, east of Watsonville, and north Monterey County, and from the coast, toward the large pumping troughs that form in the center of the valley. In the southern part of the Subbasin, water typically moves from north Monterey County northeastward toward Pajaro Valley and westward toward the coast (PV Water 2014). In the northern part of Pajaro Valley, water moves southeast from the Soquel/ Aptos area into the north part of the Pajaro Valley area, then south toward Watsonville and southwest toward Monterey Bay.

The Subbasin is considered to be in critical overdraft, causing groundwater elevations to drop below sea level and continuing experienced seawater intrusion

In the Project area, groundwater levels fluctuate seasonally and annually due to a variety of conditions (e.g., precipitation, agricultural pumping, and PV Water groundwater management projects) but are in the vicinity or generally above sea level. During a geotechnical investigation at the Project site, groundwater was observed at approximately 10 to 16 feet below ground surface (Haley Aldrich 2025). These levels are an improvement over those experienced in the latter half of the 20th century but are still lower than pre-World War II levels (PV Water 2014).

Groundwater Quality

Water quality in the Subbasin varies widely both spatially and vertically throughout the Pajaro Valley Groundwater Basin (RWMG 2019). For example, concentrations of total dissolved solids (TDS), a measure of salts, range from a minimum of 120 milligrams per liter (mg/L) to a maximum value over 27,000 mg/L. The locations with the highest TDS concentrations include the western boundary, consistent with the mapped seawater intrusion front. Eastern areas are elevated including Murphy Crossing and the East Area where stream flow infiltration of high TDS water originating in the upper reaches of the Pajaro River Watershed occurs. Seawater intrusion is the greatest source of salts to the aquifer system, with approximately 20% of the groundwater within the basin observed to have chloride concentrations greater than 100 mg/L (RWMG 2019). Seawater intrusion has caused chloride contamination of groundwater wells up to three miles inland (PV Water 2021). More recent groundwater data indicates that chloride concentrations as a measure of salinity have been relatively stable although there are wells with increasing

concentrations (PV Water 2021). Elevated groundwater concentrations of nitrate-NO₃ are found in the sand dunes of the San Andreas and Springfield Terraces as well as in the eastern area between Highways 129 and 152.

The main source of nitrates in the basin is direct infiltration via agricultural land uses, followed by streamflow infiltration. Given that no Water Quality Orders are explicitly stated for the area in the current Water Quality Control Plan for the Central Coastal Basin (RWQCB 2024, the threshold concentrations for each constituent of concern were selected based on the thresholds defined for neighboring basins. The analysis suggests a significant amount of assimilative capacity with respect to TDS remains in the PV Water groundwater basin with over 90% of the area to have concentrations below 1,000 mg/L TDS. For nitrates, the analysis suggests some level of remaining assimilative capacity for over 80% of the Basin. However, nearly 20% of the Basin has average nitrate concentrations that exceed the selected threshold of 45 mg/L.

Approximately 90% of the City of Watsonville drinking water demands are supplied by twelve groundwater wells extracting from the Pajaro Valley basin. All twelve wells are impacted by hexavalent chromium and six of which exceed the new 10 ppb MCL regulatory limit that became effective in 2024 and has a phased approach for compliance (RWMG 2019 and City of Watsonville 2021). 50% of the City's water supply will be in violation of the new MCL. Until treatment is implemented, the impacted wells will not meet primary drinking water standards leaving the City vulnerable to drinking water MCL violations. There are two Pajaro Valley Groundwater Basin sites in Watsonville that are contaminated by arsenic (RWMG 2019).

The existing onsite well was tested in 2022 for nitrates, specific conductance, total dissolved solids, temperature, and pH. The results reported on June 13, 2022, indicated that all analytes were below the drinking water standards, where applicable (no drinking water limits are available for temperature and pH) (MBAS 2022). Therefore, water from the existing well would be suitable for use onsite for landscape irrigation.

Groundwater Wells

A review of the U.S. Geological Survey's national water information system database for information about wells within a half mile of the Project site was completed and the location of groundwater wells on and in the vicinity of the Project site is shown in Figure 4, Groundwater Wells. The onsite well was constructed in December 1986 and completed to a depth of 340 feet below ground surface. The well is perforated or screened from 165 to 320 feet below ground surface. As noted above, the 2025 geotechnical investigation at the site observed groundwater at depths of 10 to 16 feet below ground surface (Haley Aldrich 2025).

4.3 Imported Water

The City does not purchase or import water supplies (City of Watsonville 2021). PV Water has identified importing water from the Central Valley Project, which sources water from the San Joaquin and Sacramento Rivers of the Delta, as a potential future project. However, this is a long-term planning alternative project that is currently not actively pursued, however PV Water does hold a Central Valley Project entitlement of 19,900 AFY reserved for it by US Bureau of Reclamation (PV Water 2021) This alternative assumes up to 60% of this entitlement could be available.

4.4 Recycled Water

The City produces recycled water for some of its customers for non-potable use including landscape irrigation through water produced from the Recycled Water Treatment Facility (RWF). The RWF is located at the City's wastewater treatment facility (WWTF) and designed to treat 4,000 AFY of wastewater to recycled water standards (as required under Title 22) (City of Watsonville 2021). In 2020, it provided 3,434 AFY of recycled water. The RWF provides recycled water for crop irrigation throughout the coastal areas of the South Santa Cruz and North Monterey counties. The City collaborated with PV Water to develop and build the RWF. The City operates the RWF and PV Water manages the distribution of the recycled water to provide agricultural irrigation. Design capacity of the RWF is 10,000 gallons per minute (GPM). Recycled water is provided to nearby farms; however, very little is provided to agriculture within the City's service area. No other urban water agency claims credits for this recycled water. The Project's demand is likely too small to be considered a viable candidate for recycled water use.

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5 Water Management Plans and Programs

5.1 Pajaro Valley Water Management Agency Alternative Groundwater Sustainability Plan

The Sustainable Groundwater Management Act (SGMA) of 2014 is a package of three bills (Assembly Bill 1739, SB 1168, and SB 1319) that provides local agencies with a framework for managing groundwater basins in a sustainable manner. SGMA establishes minimum standards for sustainable groundwater management; roles and responsibilities for local agencies that manage groundwater resources; and timelines to achieve sustainable groundwater management within 20 years of adoption of a groundwater sustainability plan (GSP). Central to SGMA are the identification of critically overdrafted basins, prioritization of groundwater basins, establishment of groundwater sustainability agencies (GSA), and preparation and implementation of GSPs for medium- and high-priority basins. SGMA required GSAs to be formed by June 30, 2017. GSPs must consider all beneficial uses and users of groundwater in the basin, as well as include measurable objectives and interim milestones that ensure basin sustainability. A basin may be managed by a single GSP or multiple coordinated GSPs. At the state level, DWR has the primary role in the implementation, administration, and oversight of SGMA, with the State Water Resources Control Board stepping in should a local GSA be found to not be managing groundwater in a sustainable manner. GSAs must follow DWR's approved regulations and guidelines for implementation of SGMA.

PV Water elected to be the Groundwater Sustainability Agency (GSA) for the Subbasin in August 2015. As the GSA, PV Water is responsible for achieving groundwater sustainability for the Basin by 2040. The Project site is located in the area of the Subbasin managed by PV Water.

DWR identifies the Subbasin as a high-priority, critically over-drafted basin. As such, the Subbasin has been subject to the requirements of SGMA. PV Water submitted an Alternative to a GSP, as allowed under SGMA, for the Subbasin on December 31, 2016. The GSP Alternative consists primarily of the PV Water Basin Management Plan Update 2014 (PV Water 2014) and is supplemented by documents including the Agency Act (1984), the Pajaro Valley Hydrologic Model (PVHM) report (Hanson et al. 2014), and the Salt and Nutrient Management Plan (PV Water 2014). The California Department of Water Resources (DWR) approved the PV GSP Alternative on July 17, 2019. Under SGMA, a 5-Year Update of the approved PV GSP Alternative was due to DWR by January 1, 2022. The 2022 Basin Management Plan: Groundwater Sustainability Update 2022 was finalized December 2021. With the 5-Year Update, the PV GSP Alternative primarily consists of an update to the BMP 2014 but continues to be supplemented by documents such as the Agency Act (1984), the Pajaro Valley Hydrologic Model (PVHM) report (Hanson et al. 2014), and the Salt and Nutrient Management Plan (PV Water 2021).

In its approval of the PV GSP Alternative, DWR provided 10 recommended actions for PV Water to address in the 2022 5-Year Update of the PV GSP Alternative (PV Water 2021). The recommendations included providing quantification of depletions of inter-connected surface waters, updating the water budget, providing sustainable management criteria for chronic lowering of groundwater levels and interconnected surface waters, sustainable management criteria for seawater intrusion, and drought resiliency actions among others.

In compliance with SGMA, PV Water is required to provide an annual report that presents an analysis of the Subbasin's sustainability status by comparing current conditions to the defined sustainable management criteria (SMC), that were established in the Basin Management Plan. The sustainability indicators are seawater intrusion, reduction of groundwater in storage, chronic lowering of groundwater levels, depletions of interconnected surface water, and degraded water quality. The following update results were reported for water year 2024:

- For seawater intrusion in water year (WY) 2024, the minimum threshold was not exceeded, and undesirable results are not occurring. The measurable objective was not achieved based on Groundwater Ambient Monitoring and Assessment (GAMA) Program data.
- For reduction of groundwater in storage (groundwater in storage), the minimum threshold was met, and undesirable results are not occurring. Further, the defined interim milestones and measurable objective were both met.
- For chronic lowering of groundwater levels (groundwater levels), there were no minimum threshold exceedances. Undesirable results for this indicator are currently not occurring. Of the eighteen representative monitoring points (RMPs), seventeen RMPs met their 2025 interim milestones, and twelve RMPs currently exceed their measurable objective.
- For depletions of interconnected surface water (interconnected surface water), 2025 interim milestones were achieved at all five RMP. Measurable objectives were not achieved at any RMP.
- For degraded water quality (water quality), there was a minimum threshold exceedance constituting undesirable results for nitrate in SNMP Zone 2 (coastal).

The BMP 2014 includes the following projects and management actions (PV Water 2014):

- Conservation
- Increased Recycled Water Storage at the Recycled Water Facility (now referred to as the Recycled Water Facility Optimization Project)
- Increased Recycled Water Deliveries (including the Coastal Distribution System Expansion Project)
- Harkins Slough Recharge Facilities Upgrades & Watsonville Slough with Recharge Basins (now referred to as the Watsonville Slough System Managed Aquifer Recharge and Recovery Projects)
- College Lake with Inland Pipeline to Coastal Distribution System (now referred to as the College Lake Integrated Resources Management Project)
- Murphy Crossing with Recharge Basins

The above projects and management actions with the highest potential for ongoing drought resiliency are conservation and increased recycled water deliveries supported by both the Recycled Water Facility Optimization Project and Coastal Distribution System Expansion Project. Both of these actions have the potential to reduce groundwater extraction during drought periods. Conservation consistently reduces irrigation demand, including during drought. Wastewater from the City of Watsonville and surrounding communities such as Pajaro and

Salsipuedes Sanitary District will continue to be a drought tolerant supply of water for recycling and reuse (PV Water 2014). The proposed Projects aligns with these goals and management actions by including drought tolerant landscaping and reducing overall groundwater demand at the site.

5.2 City of Watsonville Urban Water Management Plan

The 2020 UWMP contains information on the City's current and projected water use and supply reliability. The City's water supply sources consist primarily of groundwater pumped from the Subbasin which is also supplemented with surface water diversions during years of average or above average rainfall (City of Watsonville 2021). The City does not purchase or import any water. Groundwater is pumped from the Subbasin (No. 3-002.01) which is one of two basins located in the Corralitos Basin, where the primary water bearing unit is the Aromas Red Sands formation. In 2020, total groundwater extraction from the Subbasin was 45,664 acre-feet (AF). The City uses approximately 16 percent of this amount but when factoring in supplemental water delivered to the Recycled Water Treatment Facility, the City's share of the groundwater use is 14 percent (City of Watsonville 2021).

The City has 14 extraction wells which produced between 6,316 and 7,102 AF during the period of 2016 to 2020 (City of Watsonville 2021). The City has total water rights to 21,000 AFY of groundwater. The surface water rights amount to a maximum of 900 AFY. The City is projecting the water demands will increase by approximately 8.6% from 7,827 AF to 8,504 AF (Table 5) over the next 20 years under a normal year scenario but that supply totals would remain at 21,900 AF. The City has adopted several ordinances to support water conservation by prohibiting water waste including City Code 6-3.432 (Wasting of Water), Model Water Efficient Landscape Ordinance (MWEL), Irrigation Efficiency Action Plans, Plumbing Retrofit Water Conservation Certificate Program, and the Green Building Code.

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6 Water Supply Assessment

6.1 City of Watsonville

Water from the City is the proposed source of supply for the fire suppression system to be constructed at the Project BESS facility. The City’s water supplies from 2020 (actual) through 2045 (projected) are provided in Table 5. In 2020, groundwater pumped from the Subbasin made up approximately 94% of the City’s supply, As noted above, the City has rights to 21,000 AFY and can treat a maximum of 900 AFY of surface water, when available (Table 5). As a result, as shown in Tables 5 the projected water supplies available to the City remain at a constant upper bound limit of 21,900 AFY (City of Watsonville 2021). Based on projected demands, the City has sufficient water supplies to meet projected demands in normal, single dry year, and multiple dry year scenarios through 2045 as shown in Tables 6, 7, and 8, respectively.

Table 5. City of Watsonville Water Supplies and Demands

Water Source	Actual Volume	Projected Water Supply				
	2020	2025	2030	2035	2040	2045
Groundwater	7,102	21,000	21,000	21,000	21,000	21,000
Surface Water	436	900	900	900	900	900
Total	7,538	21,900	21,900	21,900	21,900	21,900
Projected Demands		7,827	8,023	8,224	8,375	8,504

Source: City of Watsonville 2021, SWRCB 2025a and SWRCB 2025b.
 Notes: All values are in acre-feet.

Table 6. Normal Year Supply and Demand Comparison

		2025	2030	2035	2040	2045
Supply Totals		21,900	21,900	21,900	21,900	21,900
Demand Totals		7,827	8,023	8,224	8,375	8,504
Difference		14,073	13,877	13,676	13,525	13,396

Source: City of Watsonville 2021, SWRCB 2025a and SWRCB 2025b.
 Notes: All values are in acre-feet.

Table 7. Single Dry Year Supply and Demand Comparison

		2025	2030	2035	2040	2045
Supply Totals		21,900	21,900	21,900	21,900	21,900
Demand Totals		8,688	8,906	9,128	9,296	9,440
Difference		13,212	12,994	12,772	12,604	12,640

Source: City of Watsonville 2021, SWRCB 2025a and SWRCB 2025b.
 Notes: All values are in acre-feet.

Table 8. Multiple Dry Year Supplies and Demands

	Actual Volume	Projected Water Supply				
		2025	2030	2035	2040	2045
First Year	Supply Totals	21,900	21,900	21,900	21,900	21,900
	Demand Totals	8,140	8,344	8,553	8,710	8,845
	Difference	13,760	13,556	13,347	13,190	13,055
Second Year	Supply Totals	21,900	21,900	21,900	21,900	21,900
	Demand Totals	8,688	8,906	9,128	9,296	9,440
	Difference	13,212	12,994	12,772	12,604	12,460
Third Year	Supply Totals	21,900	21,900	21,900	21,900	21,900
	Demand Totals	7,827	8,023	8,224	8,375	8,504
	Difference	14,073	13,877	13,676	13,525	13,396
Fourth Year	Supply Totals	21,900	21,900	21,900	21,900	21,900
	Demand Totals	7,201	7,381	7,566	7,705	7,824
	Difference	14,699	14,519	14,334	14,195	14,076
Fifth Year	Supply Totals	21,900	21,900	21,900	21,900	21,900
	Demand Totals	6,653	6,820	6,990	7,118	7,229
	Difference	15,247	15,080	14,910	14,782	14,671

Source: City of Watsonville 2021.

Notes: All values are in acre-feet.

6.2 Pajaro Valley Water Management Agency Water - Water Supplies and Total Storage

As part of its annual reporting consistent with SGMA requirements, total water use in the Basin during water year 2023 was 42,955 AF, a significant decrease of approximately 20% compared to water year 2022, with groundwater providing approximately 91% of the supply (PV Water 2024). The Aromas Red Sands is the principal aquifer of the Basin, providing the majority of pumped groundwater. Results of monitoring activities in the fall of 2023 indicated a 6.3-foot increase in average groundwater surface elevations within the Basin over the last water year. In water year 2023, the volume of groundwater in storage increased by an estimated 23,746 AF.

PV Water continues to implement a conservation program with the goal of conserving an average of 5,000 acre-feet per year (AFY). The primary components of the program include outreach, partner collaboration and program coordination, workshops and training, and an irrigation efficiency program. An evaluation of water use trends and agricultural conservation through comparing a rolling 5-year average to a baseline period (2006-2010) showed that in 2019-2023, agricultural water use was approximately 5,600 AF less than the baseline period (PV Water 2024). The cumulative change in groundwater storage from 2015 to 2023 has been positive and ranged from a 266 AF increase in 2015 to a 43,070 AF increase in 2023, a very wet year (PV Water 2024).

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7 Conclusion

A WSA is required to identify and describe the water supply source(s) that will serve a proposed project. CWC Section 10910(d) requires a WSA to include an identification of any existing water supply entitlements, water rights, and water service contracts relevant to the identified water supply for a proposed project, and a description of the quantities of water received in prior years if the source is a public water supplier.

Water supply for the Project would be supplied by both the City (during operation) and PV Water (during construction), which both primarily source their water supply from groundwater pumped from Pajaro Valley Groundwater Subbasin. The City also supplements its water supply with surface water when available.

The Project site is currently operating as an active 47-acre apple orchard, and the Project would develop a 16-acre portion of the site as a BESS facility. On average, the orchard uses 0.75 AFY per acre or 12 AFY for the 16-acre portion of the site. The estimated construction demand for the Project would be 12.6 AF over an 18-month construction period, and the operational demand is estimated at 4.2 AFY. Therefore, both the annualized construction rate of 8.4 AFY and the operational demand of 4.2 AFY would be lower than the existing demand of 12 AFY for the portion of the site that would be redeveloped. The City has water rights that far exceed its projected water demands out to 2045 and have sufficient water supplies under normal, single dry, and multi-year dry scenarios. PV Water is adhering to SGMA requirements and improving sustainability practices and management of the basin that have increased groundwater storage every year going back to 2015.

Based on the information, analysis, and findings documented in this WSA, the total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses of the identified water supply.

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8 References

- CIMIS (California Irrigation Management Information System). 1999. Reference Evapotranspiration Zones Map. Accessed December 2025. <https://cimis.water.ca.gov/Content/pdf/CimisRefEvapZones.pdf> City of Watsonville. 2021. 2020 Urban Water Management Plan, July 2021. <https://www.watsonville.gov/DocumentCenter/View/16377/2020-Watsonville-Urban-Water-Management-Plan>.
- Dobler. 2025. Estimated property water use in acre-feet per year per acre. Personal communication from Dobler (landowner) to Dudek.
- DWR. 2012. Reference Evapotranspiration Zones. California Irrigation Management Information System. January 2012. Also available at <https://cimis.water.ca.gov/Content/pdf/CimisRefEvapZones.pdf>.
- Hanson, R.T., W. Schmid, C.C. Faunt, J. Lear, B. and Lockwood. 2014. "Integrated hydrologic model of Pajaro Valley, Santa Cruz and Monterey Counties, California." *U.S. Geological Survey Scientific Investigations Report 2014-5111*, 166 p. <http://dx.doi.org/10.3133/sir20145111>.
- Haley & Aldrich, Incorporated (Haley Aldrich). 2025. Geotechnical Engineering Report, New Battery Energy Storage System Installation, 90 Minto Road, Watsonville, California. September 2025.
- Monterey Bay Analytical Services (MBAS). 2022. Sample Results for Dobler & Sons – Minto MINTO174_I, June 13, 2022.
- Pajaro River Watershed Regional Water Management Group (RWMG). 2019. Pajaro River Watershed Integrated Regional Water Management Plan. October 2019. https://www.pvwater.org/images/about-pvwma/assets/irwm/_Pajaro_IRWM_Plan_Update_2019_v03-24-20_compiled-web.pdf.
- Pajaro Valley Water Management Agency (PV Water). 2014. Basin Management Plan, Groundwater Sustainability Update 2014. Final. February, 2014.
- Pajaro Valley Water Management Agency (PV Water). 2021. Basin Management Plan, Groundwater Sustainability Update 2022. Final. December, 2021. https://www.pvwater.org/images/about-pvwma/assets/SGM/GSU22_20211229_MainBody-web.pdf.
- Pajaro Valley Water Management Agency (PV Water). 2024. Pajaro Valley Subbasin Water Year 2023 Annual Report. March 2024. Also available at https://www.pvwater.org/images/about-pvwma/assets/annual_reports_assets/SGMA-WY/3-002.01_WY_2023_Web.pdf
- Pierce, D.W., J.F. Kalansky, and D.R. Cayan. 2018. Climate, Drought, and Sea Level Rise Scenarios for California's Fourth Climate Change Assessment. Technical Report CCCA4-CEC-2018-006. California Energy Commission. https://www.energy.ca.gov/sites/default/files/2019-11/Projections_CCCA4-CEC-2018-006_ADA.pdf.
- Regional Water Quality Control Board, Central Coast (RWQCB). 2024. *Water Quality Control Plan for the Central Coastal Basin*. June 2024 Edition also available at

https://www.waterboards.ca.gov/centralcoast/water_issues/programs/basin_plan/docs/2024_basin_plan_r3.pdf.

SWRCB (California State Water Resources Control Board). 2025a. Water Rights Records Search, eWRIMS, Public Summary Page for water rights diversion S010141. Accessed November 13, 2025.

https://rms.waterboards.ca.gov/Print_ST2022.aspx?FORM_ID=682526.

SWRCB (California State Water Resources Control Board). 2025b. Water Rights Records Search, eWRIMS, Public Summary Page for water rights diversion S010142. Accessed November 13, 2025.

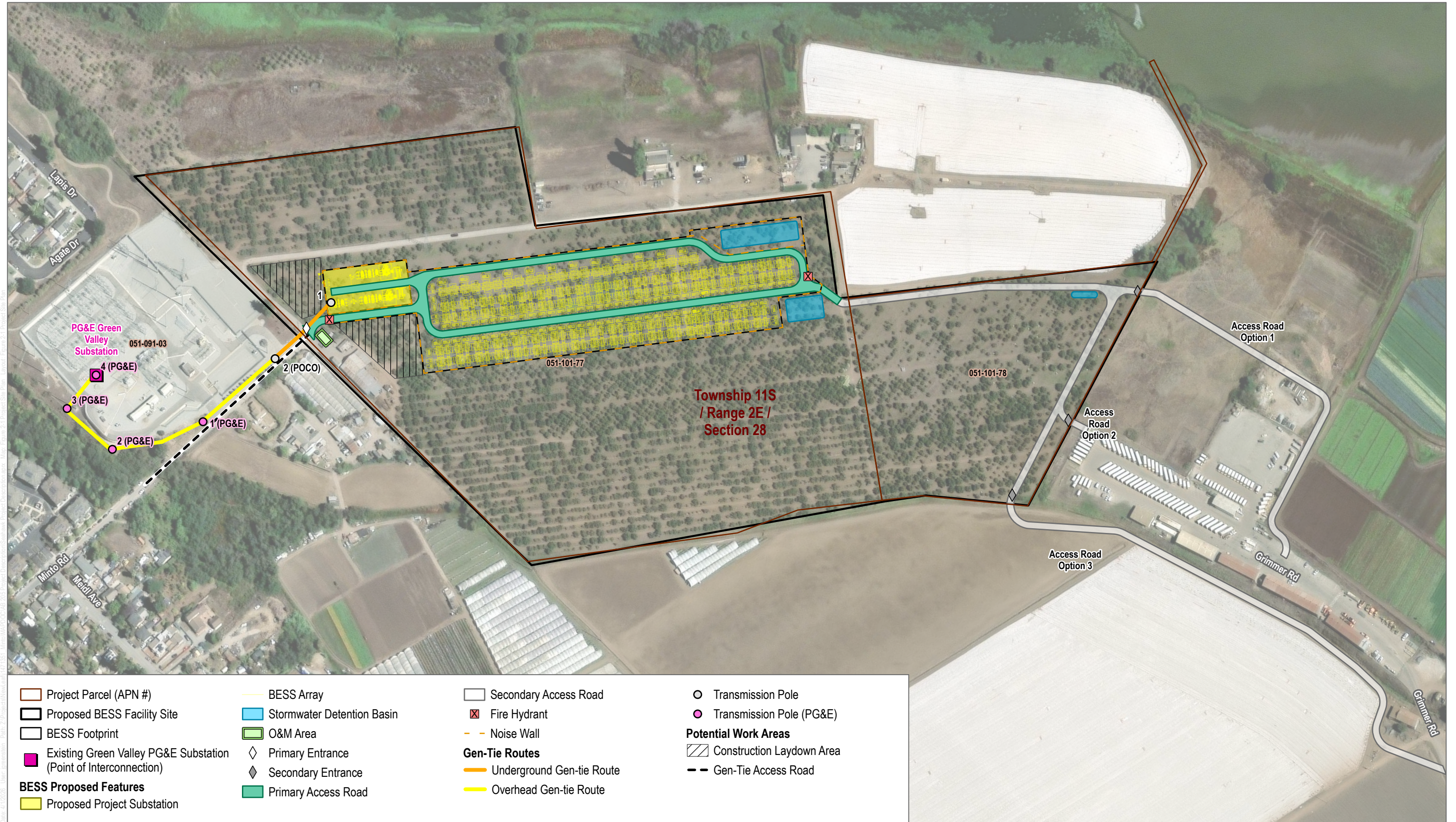
https://rms.waterboards.ca.gov/Print_ST2022.aspx?FORM_ID=682526.

University of California, Davis (UC Davis). 2000. A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California. 2000.

University of California, Davis (UC Davis). 2025. WUCOLS V 2025, Water Use Classification of Landscape Species. 2025.

WRCC (Western Regional Climate Center). 2025. Watsonville Water Works, California (049473. Period of Record - Temperature and Precipitation. Accessed November 6, 2025. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9473> .

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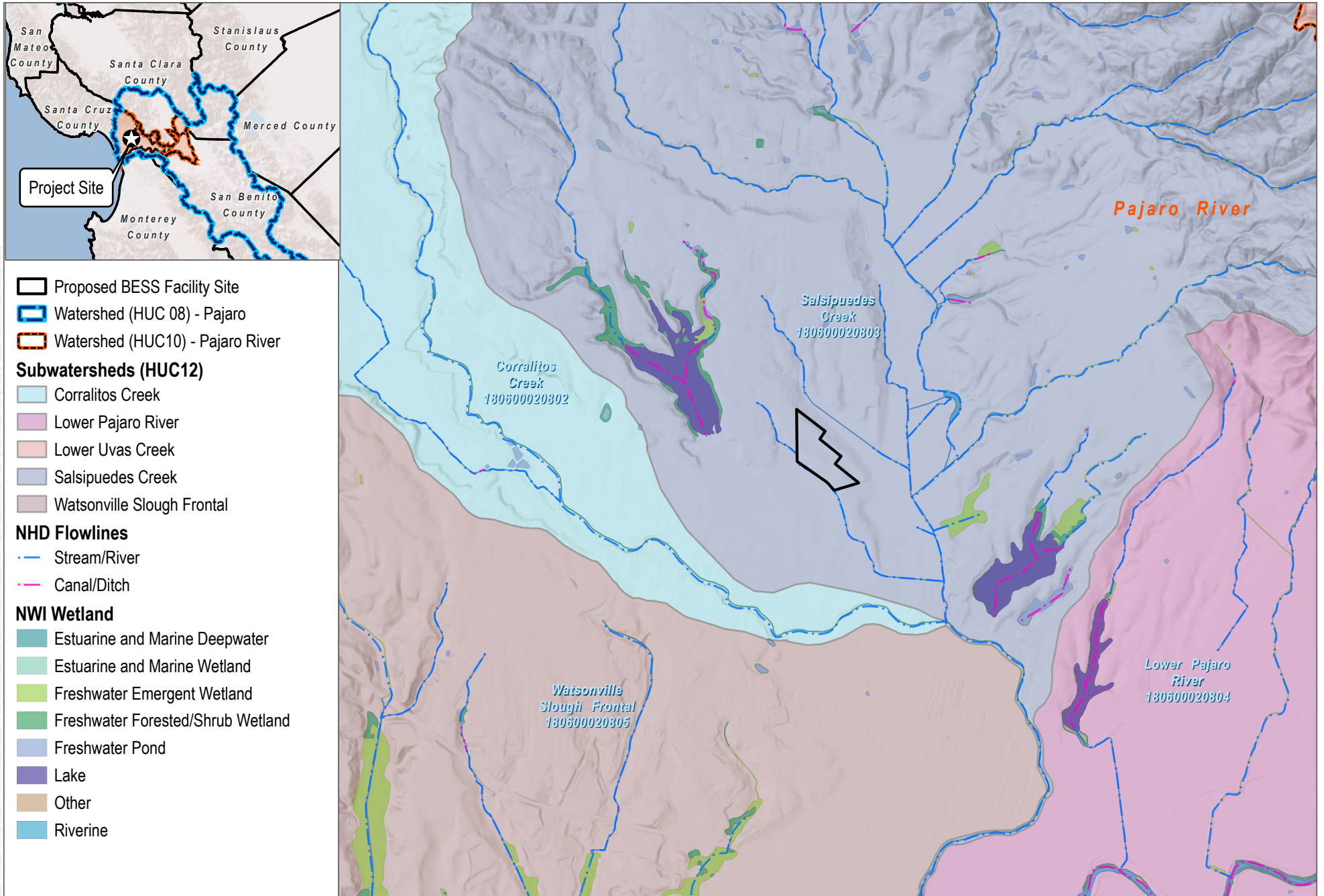
SOURCE: New Leaf Energy 2025; Vantor 2024; Open Street Map 2023



FIGURE 1
Project Site Plan

Seahawk Battery Energy Storage System Project

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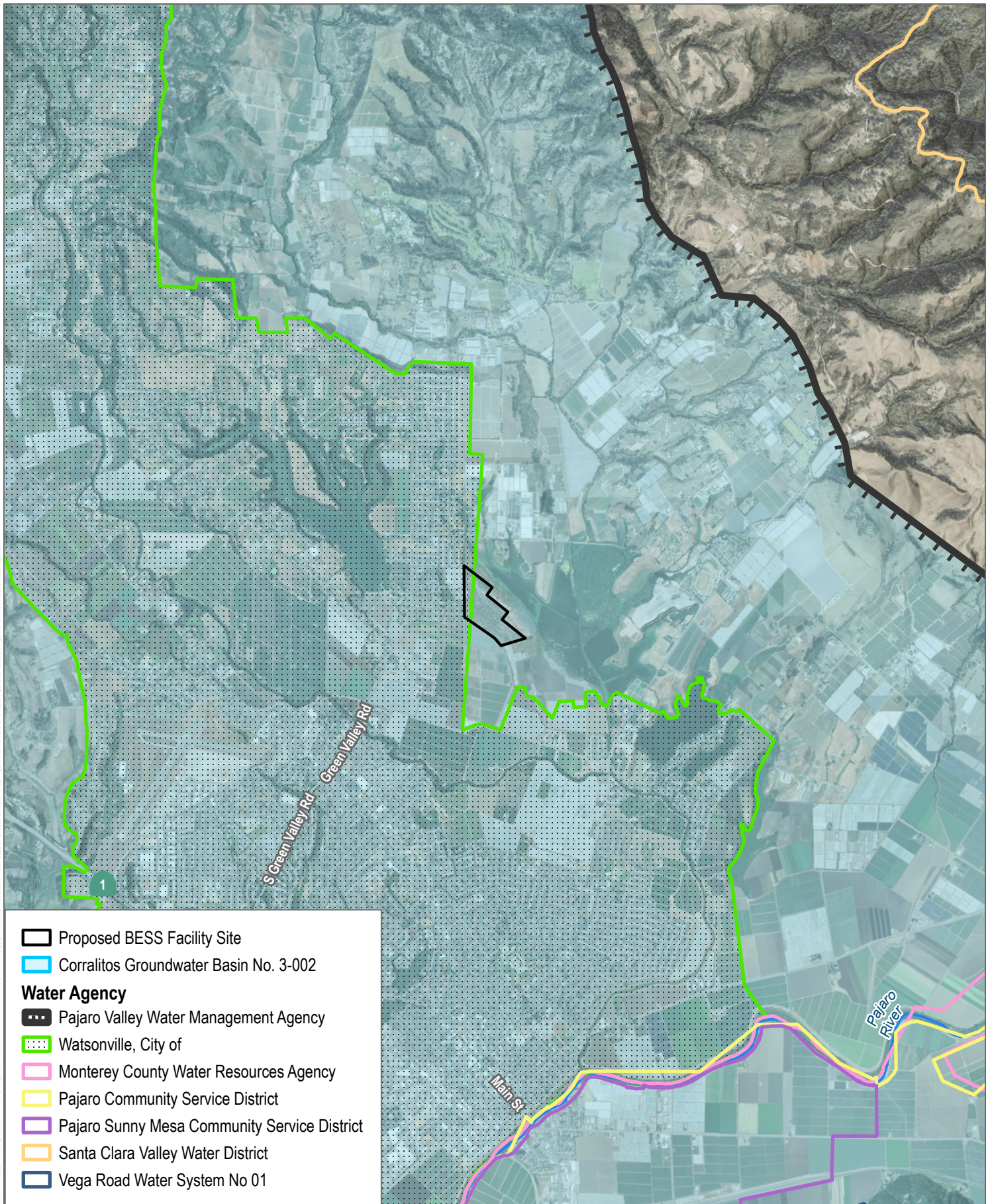
SOURCE: Esri World Hillshade; USGS



FIGURE 2

RWQCB Hydrologic Setting

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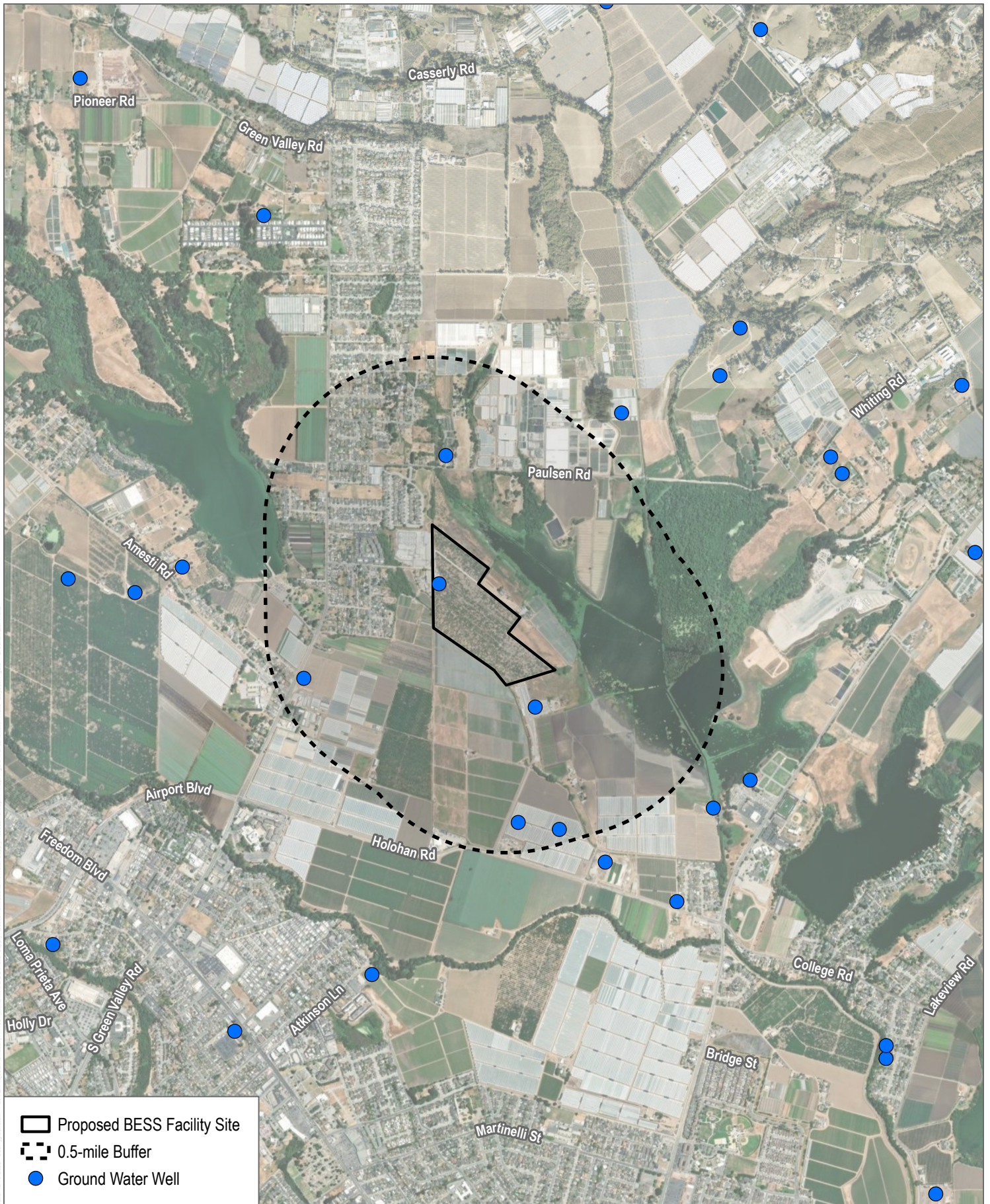


SOURCE: DWR, RWQCB; Maxar 2024; Open Street Map 2023

FIGURE 3

GW Basins and Water Agencies

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SOURCE: USGS 2025; Maxar 2024; Open Street Map 2023

FIGURE 4

Groundwater Wells

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