Stormwater Control Plan
For Regulated Project

For

Spirit Living Group Senior Housing
55 Thomas Drive, Mill Valley CA
APN 034-012-26

JN 24114
June 4, 2025

Prepared for:
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Checked By: CT

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Appendices

Stormwater Control Plan for Regulated Project For
Spirit Living Group Senior Housing
15655 Arnold Drive, Glen Ellen California

I. Project Data Form

Project Name	Spirit Living Group Senior Housing
Application Submittal Date	June 2024
Project Location	55 Thomas Drive, Mill Valley CA
Project Phase No.	N/A
Project Type and Description	Regulated Project
Total Project Site Area	6.02 Acres
Total New and Replaced Impervious Area	59,303 SF (1.36 acres)
Total Pre-Project Impervious Surface Area	0 SF (0 acres)
Total Post-Project Impervious Surface Area	59,303 SF (1.36 acres)
Runoff Reduction Measure	Bioretention Facilities

II. Project Setting

A. Nature and Purpose of the Project

The Spirit Living Group Senior Housing project proposes to construct a new senior living housing building, AC driveway, concrete walkway, and associated hardscaping and landscaping. The disturbed area of the project is approximately 1.86 acres, with a total added and replaced impervious area of 1.36 acres.

B. Existing Site Features and Conditions

The existing site is located on Thomas Drive in Mill Valley, California with existing slopes ranging from 15% to 50%. The project resides approximately 4,150 LF northwest of Richardson Bay. The existing parcel is approximately 6.02 acres. The site is undeveloped with existing brush and trees throughout. According to the United States Department of Agriculture (USDA) Web Soil Survey Program, the site contains Hydrological Soil Group D. See attached Soil Analysis in **Appendix F**.

C. Opportunities and Constraints for Stormwater Control

Pursuant to the BASMAA Post – Construction Manual, the project is classified as a regulated project. This type of project is required to direct runoff from the impervious surface areas to Permanent Best Management Practices (BMPs). Where realistically feasible, the runoff shall be directed to proposed bioretention facilities. In instances where it is infeasible to directly drain impervious surfacing to a bioretention facility, the required treatment will be offset in the nearest bioretention facility by upsizing them, thereby, providing the necessary treatment requirements for the site. BMPs are located based on the grading concepts and sized based on the condition of the tributary area. Areas draining to the bioretention facility will be sized at 4% of the tributary areas. see attached **Stormwater Control Plan Exhibit**.

III. Low Impact Development Design Strategies

A. Optimization of Site Layout

The proposed site was designed to follow pre – construction drainage patterns. Bioretention facility placement was designed to maximize the amount of impervious surface draining towards it, surface runoff conditions are provided wherever possible. Hardscaping is used where appropriate throughout the site to limit the proposed impervious surfacing. Natural resources are protected by using minimal pipes and maximizing surface drainage conditions, thereby avoiding unnecessary channeling of flow. Runoff will maintain its existing discharge locations. The project has been designed to maintain pre-construction flow conditions, maintaining existing drainage conditions prior to discharging from the site or to the public storm drain system along Thomas Drive. See associated Drainage Report.

IV. Documentation of Drainage Design

A. Description of Drainage Management Areas

DMA-1 totaling 462 SF of impervious surface has been included in the sizing of bioretention facility **BIO-3**. Due to site constraints, **BIO-3** has been sized to include the drainage management areas DMA-1, DMA-2, and DMA-3 totaling 36,012 SF.

DMA-2 totaling 429 SF of impervious surface has been included in the sizing of bioretention facility **BIO-3**, Due to site constraints, **BIO-3** has been sized to include the drainage management areas DMA-1, DMA-2, and DMA-3 totaling 36,012 SF.

DMA-3 totaling 23,865 SF of impervious surface and landscape area drains to bioretention facility **BIO-1**. **BIO-1** has been sized to include all pavement within DMA-3 which cannot feasibly drain directly towards bioretention facility due to site constraints.

DMA-4 totaling 9,159 SF of Proposed Building drains via Rooflines to bioretention facility **BIO-2**.

DMA-5 totaling 4,359 SF of impervious surface and landscape area drains to bioretention facility **BIO-2**.

DMA-6 totaling 35,121 SF of Proposed Building, impervious surface, and landscape area drains to bioretention facility **BIO-3**. Due to site constraints, **BIO-3** has been sized to include the drainage management areas DMA-1, DMA-2, and DMA-3 totaling 36,012 SF.

B. Areas Draining to Bioretention Facilities

Bioretention Sizing: BIO-1

DMA Name	Area (SF)[1]	Post-Project Surface Type	Runoff Factor	Area x Runoff Factor	Facility Name: Bioretention Facility		
					Sizing Factor	Minimum Facility Size (SF)[1]	Proposed Facility Size (SF)[1]
DMA-3	14,920.00	Roof/ Paving	1.0	14,920.00			
	8,945.00	Landscape Areas	0.1	894.50			
	-	Permeable Pavers	0.2	-			
Total >				15,815	0.04	633	635
					Sized Correctly =		**TRUE**
					Area Oversized (SF) =		**2**

Bioretention Sizing: BIO-2

DMA Name	Area (SF)[1]	Post-Project Surface Type	Runoff Factor	Area x Runoff Factor	Facility Name: Bioretention Facility		
					Sizing Factor	Minimum Facility Size (SF)[1]	Proposed Facility Size (SF)[1]
DMA-4 & 5	13,418.00	Roof/ Paving	1.0	13,418.00			
	100.00	Landscape Areas	0.1	10.00			
	-	Permeable Pavers	0.2	-			
Total >				13,428	0.04	537	555
					Sized Correctly =		**TRUE**
					Area Oversized (SF) =		**18**

Bioretention Sizing: BIO-3

DMA Name	Area (SF)[1]	Post-Project Surface Type	Runoff Factor	Area x Runoff Factor	Facility Name: Bioretention Facility		
					Sizing Factor	Minimum Facility Size (SF)[1]	Proposed Facility Size (SF)[1]
DMA-1,2,6	32,535.00	Roof/ Paving	1.0	32,535.00			
	3,477.00	Landscape Areas	0.1	347.70			
	-	Permeable Pavers	0.2	-			
Total >				32,883	0.04	1,315	1,300
					Sized Correctly =		**TRUE**
					Area Oversized (SF) =		**15**

V. Source Control Measures

Potential Source of Runoff Pollutants	Structural Source Controls	Operational Source Control BMPs
Landscape/Outdoor Pesticide use	*See statement below*	Maintain landscaping using minimum or no pesticides. See applicable operation BMPs in Fact Sheet SC-41 "Building and Grounds Maintenance" in the CASQA Stormwater Quality Handbook. Provide IMP information to new owners, lessees and operators.
Road and Street Maintenance		Maintain and keep a consistent sweeping schedule. See applicable operation BMPs in Fact Sheet SC-70 "Road and Street Maintenance" in the CASQA Stormwater Quality Handbook
Refuse Areas	*Signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.*	Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/ prevent dumping of liquid or hazardous wastes. Post "No hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep

		spill control materials on site. Maintain receptacles and inspect regularly. See applicable Fact Sheet SC-34 "Waste handling and disposal" in the CASQA Stormwater Quality Handbook
Interior Parking Garages	*Parking garage floor drains will be plumbed to the sanitary sewer.*	Inspect and maintain drains to prevent blockages and overflow.
On-site Storm drain inlets	*Mark all inlets with the words "No Dumping! Flows to Bay" or similar*	Maintain and periodically repaint or replace inlet markings. Provide stormwater pollution prevention information to new site owners, lessees, or operators. See applicable operational BMPs in Fact Sheet SC-44 "Drainage System Maintenance" in the CASQA Stormwater Quality Handbooks. Include the following in lease agreements "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."

For landscaped areas existing trees and vegetation will be maintained to the maximum extent practicable. Landscaped areas will be designed such that the use of pesticides will not be required. Refer to the Integrated Pest Management information for proper use of pesticides before use.

VI. Stormwater Facility Maintenance

The applicant (owner) will be required to follow the recorded Operation and Maintenance plan and to accept responsibility for interim operation and maintenance of stormwater treatment and flow – control facilities until such time as this responsibility is formally transferred to a subsequent owner.

Based on current costs of installation, we anticipate that the maintenance cost over an annual period for the proposed LID features will be $0.50 per square foot for a total of $1,245 per year. Since Adobe Associates, Incorporated, has no control over the cost of labor, materials, or equipment, or the contractor's methods of determining prices, or market conditions, our opinions of probable maintenance cost provided herein are to be made on the basis of our experience and qualifications and represent our best judgment as design professionals familiar with the construction industry. Adobe Associates, Incorporated cannot, and does not, guarantee that the cost will not vary over time as of the date of this report.

The owner shall be the responsible party for costs associated with Operations and Maintenance of the bioretention facilities until such time that this responsibility is transferred to a subsequent owner.

Some maintenance requirements for the landscape areas and bioretention facility will include general cleanup to remove any trash and debris that has collected, prune plants, maintain the design surface elevation, control weeds using manual methods or natural herbicides, add mulch as needed.

Table 1: BMP Inspection and Maintenance Schedules

Inspection Activity	Every 24 Hours During Storm Event	Monthly	Bi-Annual (Oct/April)	As Needed
1. Inspect Bio-retention Facility	x	x		
2. Inspect Inlets	x	x		
3. Inspect Outlets	x	x		
4. Inspect Landscape Areas			x	
5. Inspect Perforated Pipe				x

Bioretention Treatment and Infiltration

The following is the recommended procedure to inspect system in service.

- Dry street sweeping upon completion of construction
- Dry street sweeping annually
- Inspect twice during rainy season for ponded water.
- Pesticides and fertilizers shall not be used in the bioretention area
- Plants should be pruned, weeds pulled, and dead plants replaced as needed.

VII. Construction Checklist

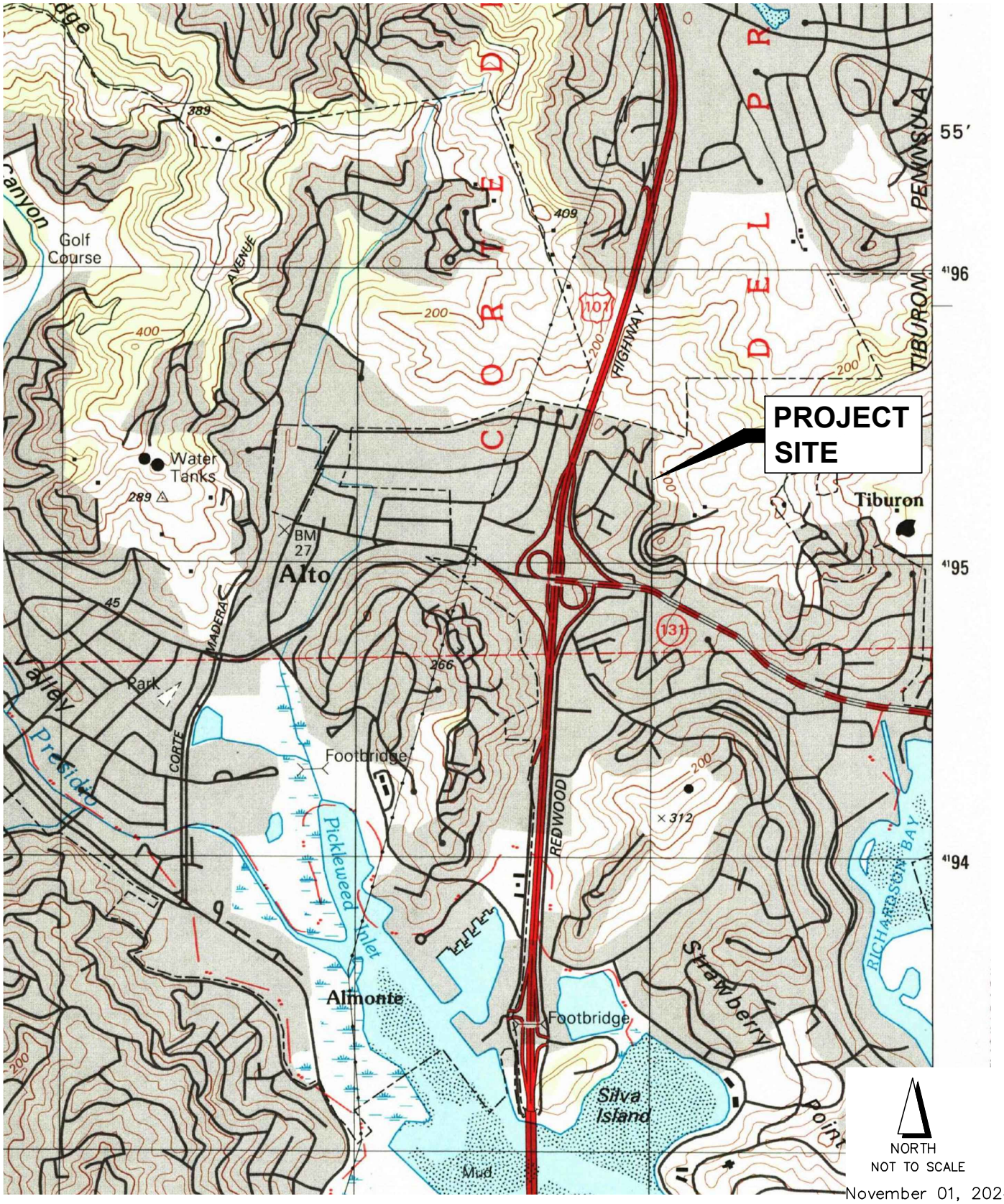
Page # in Stormwater Control Plan	Source Control/Treatment Control Measure	Plan Sheet #
5	Landscape/Outdoor pesticide use	C3.0-C3.2 & C5.0-C5.1
5	Street sweeping and cleaning	C3.0-C3.2
5-6	Refuse Areas	C3.2
6	Interior Parking Garages	C9.0-C9.1
6	On-site storm drain inlets	C6.0

VIII. Certifications

The design of stormwater treatment facility and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA Post – Construction Manual.

APPENDIX A

Vicinity Map



VICINITY MAP

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55 Thomas Drive, Mill Valley, CA

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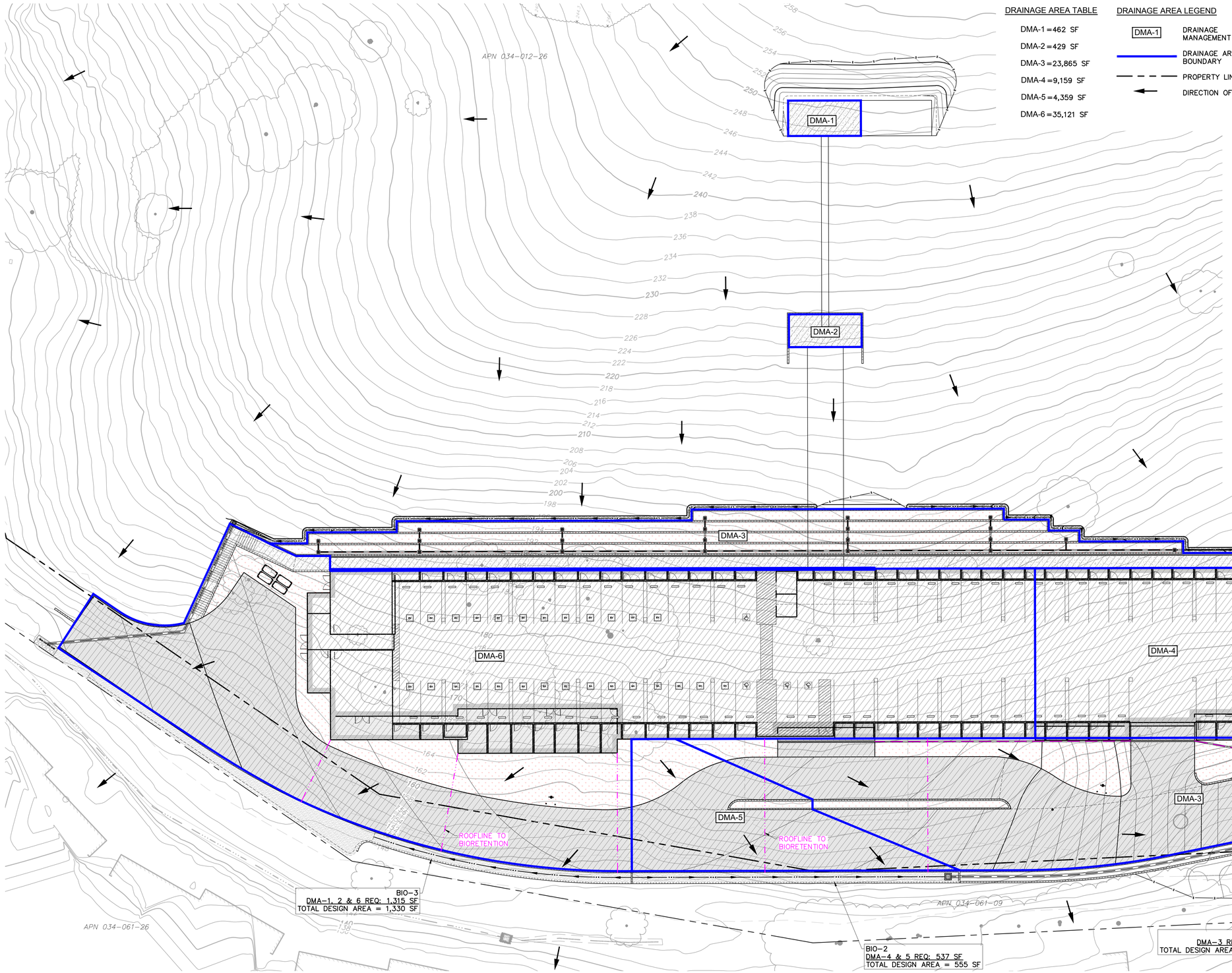
APPENDIX B

Stormwater Control Plan Exhibit



DRAINAGE AREA TABLE

DMA-1 = 462 SF

DMA-2 = 429 SF

DMA-3 = 23,865 SF

DMA-4 = 9,159 SF

DMA-5 = 4,359 SF

DMA-6 = 35,121 SF

DRAINAGE AREA LEGEND

DMA-1 — DRAINAGE MANAGEMENT AREA

DRAINAGE AREA BOUNDARY

PROPERTY LINE

DIRECTION OF FLOW

HATCHING LEGEND

IMPERVIOUS AREA

LANDSCAPE

BIORETENTION FACILITY

DRAINAGE ROUTING

DMA-3, DMA-4, DMA-5 → BIO-1

DMA-6, DMA-1 → BIO-2

DMA-2 → BIO-3

Bioretention Sizing: BIO-1

DMA Name	Area (SF)[1]	Post-Project Surface Type	Runoff Factor	Area x Runoff Factor	Facility Name: Bioretention Facility		
					Sizing Factor	Minimum Facility Size (SF)[1]	Proposed Facility Size (SF)[1]
DMA-3	14,920.00	Roof/ Paving	1.0	14,920.00			
	8,945.00	Landscape Areas	0.1	894.50			
	-	Permeable Pavers	0.2	-			
Total>				15815	0.04	633	635
					Sized Correctly =		TRUE
					Area Oversized (SF) =		2

Bioretention Sizing: BIO-2

DMA Name	Area (SF)[1]	Post-Project Surface Type	Runoff Factor	Area x Runoff Factor	Facility Name: Bioretention Facility		
					Sizing Factor	Minimum Facility Size (SF)[1]	Proposed Facility Size (SF)[1]
DMA-4 & 5	13,418.00	Roof/ Paving	1.0	13,418.00			
	100.00	Landscape Areas	0.1	10.00			
	-	Permeable Pavers	0.2	-			
Total>				13428	0.04	537	555
					Sized Correctly =		TRUE
					Area Oversized (SF) =		18

Bioretention Sizing: BIO-3

DMA Name	Area (SF)[1]	Post-Project Surface Type	Runoff Factor	Area x Runoff Factor	Facility Name: Bioretention Facility		
					Sizing Factor	Minimum Facility Size (SF)[1]	Proposed Facility Size (SF)[1]
DMA-1, 2, & 6	32,535.00	Roof/ Paving	1.00	32,535.00			
	3,477.00	Landscape Areas	0.10	347.70			
	-	Permeable Pavers	0.20	-			
Total>				32883	0.04	1315	1,330
					Sized Correctly =		TRUE
					Area Oversized (SF) =		15

Graphic Scale: 1" = 20'

June 03, 2025

STORMWATER CONTROL PLAN

Spirit Living Group Senior Housing
55 Thomas Drive, Mill Valley, CA
(70 N Knoll Rd)

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APPENDIX C

Soil Analysis

Soil Map—Marin County, California

Map Scale: 1:1,480 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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: Marin 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 7, 2021—Mar 31, 2021

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
142	Los Osos-Bonnydoon complex, 30 to 50 percent slopes	6.6	91.2%
143	Los Osos-Urban land-Bonnydoon complex, 15 to 30 percent slopes	0.6	8.8%
Totals for Area of Interest		**7.3**	**100.0%**

Marin County, California

142—Los Osos-Bonnydoon complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hf2g
Elevation: 200 to 1,200 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 270 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Los osos and similar soils: 60 percent
Bonnydoon and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 15 inches: loam
H2 - 15 to 30 inches: clay
H3 - 30 to 34 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC032CA - FINE LOAMY CLAYPAN

Hydric soil rating: No

Description of Bonnydoon

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale, or sandstone

Typical profile

H1 - 0 to 11 inches: gravelly loam
H2 - 11 to 15 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC037CA - SHALLOW GRAVELLY LOAM
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Yorkville

Percent of map unit: 3 percent
Hydric soil rating: No

Slumps

Percent of map unit: 3 percent
Hydric soil rating: No

Slopes more than 50 percent

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, deep

Percent of map unit: 3 percent
Hydric soil rating: No

Tocaloma

Percent of map unit: 3 percent
Hydric soil rating: No

Data Source Information

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

Marin County, California

143—Los Osos-Urban land-Bonnydoon complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hf2h
Elevation: 200 to 1,200 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 270 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Los osos and similar soils: 40 percent
Urban land: 35 percent
Bonnydoon and similar soils: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 38 inches: clay
H3 - 38 to 42 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D

Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Description of Bonnydoon

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from shale, or sandstone

Typical profile

H1 - 0 to 15 inches: gravelly loam
H2 - 15 to 19 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Minor Components

Saurin

Percent of map unit: 2 percent

Hydric soil rating: No

Henneke
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, deep
Percent of map unit: 1 percent
Hydric soil rating: No

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

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

Slopes less than 15 percent
Percent of map unit: 1 percent
Hydric soil rating: No

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

Rock outcrop
Percent of map unit: 1 percent
Hydric soil rating: No

Data Source Information

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