DRAFT

Stormwater Treatment Facilities Operation and Maintenance Plan

for

THE RESIDENCES AT LUCAS VALLEY

1501 Lucas Valley Road

July 8, 2024

Prepared By:
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CSW|ST2 Job No.: 2300205.10

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Attachments

Stormwater Control Plan

This Stormwater Facilities Operation and Maintenance Plan was prepared using the template dated May 8, 2014.

I. Introduction

I.A. Project Description

The project consists of the development of approximately 8.26 acres of the site located at the Southeast portion of the property adjacent to Lucas Valley Road across from Mu. Muir Court. Development includes the construction of 38 single family homes and the associated infrastructure and stormwater treatment.

II. Designation of Responsible Individuals

II.A. Designated Contact for Operation and Maintenance

Name, Title or position: *Future HOA*
Address: *TBD*
Telephone & Email: *TBD*

II.B. Off-Hours or Emergency Contact

Name, Title or position: *Future HOA*
Address: *TBD*
Telephone & Email: *TBD*

II.C. Corporate Officer (authorized to execute agreements with the City, Town, or County)

Name, Title or position: *Future HOA*
Address: *TBD*
Telephone & Email: *TBD*

II.D. Initial Training of Responsible Individuals

Following completion of construction, facilities will be maintained by the contractor for two years, except for routine policing for trash, which will be done by the owner's and lessee's personnel. During this 2-year period, the owner's landscape maintenance crew will coordinate to meet with the contractor's personnel on-site during maintenance. At these times, the contractor's personnel will

II.E. Ongoing Training of Responsible Individuals

The maintenance activity directions in Section VII below are incorporated into the work orders of owner's landscape maintenance crew for work at the site. They have been reviewed by all current employees. All new employees are trained in special requirements for each site at which they work.

The main training messages for use at parcel 164-280-035:

- No synthetic pesticides or fertilizers are to be used.
- No soil amendments are to be added, except aged compost mulch.
- The top of soil elevation is to be maintained at six inches below the overflow top of grate elevation.

III. Facilities to be Maintained

III.A. Facility Descriptions

Runoff from impervious areas on the site, including roofs and asphalt, is routed to the two bioretention areas on-site. These bioretention areas are equipped with perforated pipes in the gravel layer that collect water after it has infiltrated the bioretention soil mix. There are multiple overflow inlets that allow will allow six inches of ponding before they begin to take in water.

III.B. Facility Locations and Tributary Drainage Areas

Refer to Stormwater Control Plan Exhibit for location of bioretention areas. These bioretention areas receive runoff from DMA 1 and DMA 2. Water from single family lots are directed to roof drains and area drains around the house which connect to the storm drain network to bring water to the bioretention facilities. Additionally, curb inlets and field inlets collect runoff from pavement and landscape areas on site to bring water to the bioretention facilities.

DMA Name	Surface Type	Area (square feet)
DMA 1 Impervious	Roof, Concrete, Asphalt	71,300
DMA 1 Pervious	Landscape	73,950
DMA 2 Impervious	Roof, Concrete, Asphalt	16,740
DMA 2 Pervious	Landscape	16,160

III.C. Facility Construction Details

Bioretention facilities shall comply with requirements in the 2019 BASMAA Post Construction Manual. Refer to Stormwater Control Plan Exhibit for additional details.

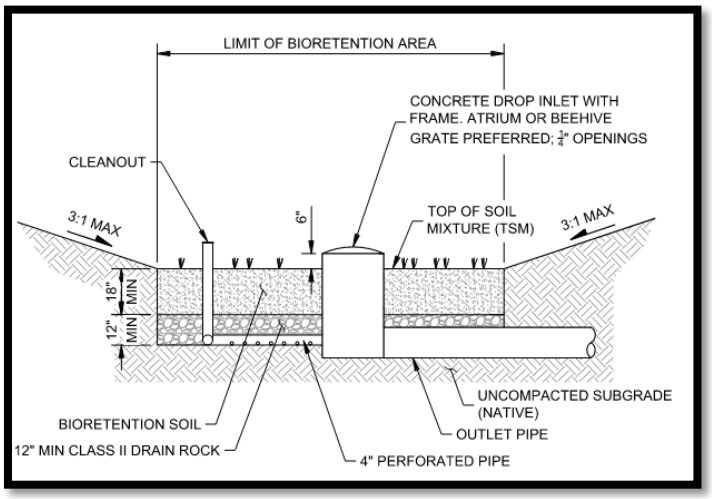


Figure 1: Typical Bioretention Detail

IV. Schedule of Maintenance Activities

IV.A. Routine Activities

The facilities will be examined daily for visible trash, and trash will be removed. Any graffiti, vandalism, or other damage will be noted and addressed within 48 hours.

The planted areas will be weeded by hand approximately monthly. At this time, plants will be inspected for health and the irrigation system will be turned on manually and checked for any leaks or broken lines, misdirected spray patterns etc. Any dead plants will be replaced.

IV.B. Following Significant Rain Events

A significant rain event will be considered to be one that produces approximately a half-inch or more rainfall in a 24-hour period. Within 24 hours after each such event, the following will be conducted:

- The surface of the facility will be observed to confirm there is no ponding.
- Inlets will be inspected, and any accumulations of trash or debris will be removed. Any erosion at inlets should be restored to grade.
- The surface of the mulch layer will be inspected for movement of material. Mulch will be replaced and raked smooth if needed.
- Outlet structure will be inspected for any obstructions to assure that mulch is not washed out.

IV.C. Prior to Start of the Rainy Season

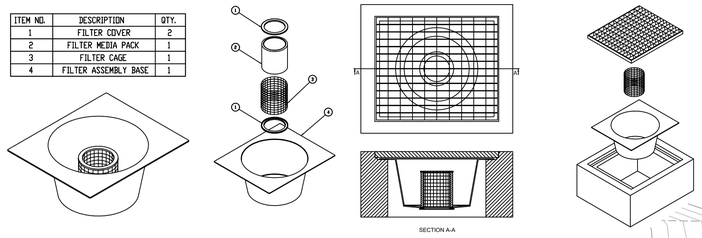
In September of each year, facility inlets and outlets [including flow-control orifices, if any] will be inspected to confirm there is no accumulation of debris that would block flow. Stormwater should drain freely into the bioretention facilities. If not previously addressed during monthly maintenance, any growth and spread of plantings that blocks inlets or the movement of runoff across the surface of the facility will be cut back or removed.

If the facilities are not completely drained in 24 hours, the underdrain may be clogged. Check the overflow outlet to determine if the underdrain is performing properly. There should be no filter fabric or geotextile in the horizontal layers or wrapped at the underdrain. If the underdrain is working, the bioretention media may contain fines. Replace material with mixture of 30-40% aged compost and 60-70% washed granular sand, no fines.

IV.D. Annually During Winter

Once, in December – February of each year, vegetation will be cut back as needed, debris removed, and plants and mulch replaced as needed. The concrete work will be inspected for damage. The elevation of the top of soil and mulch layer will be confirmed to be consistent with the 6-inch reservoir depth.

ITEM NO.	DESCRIPTION	QTY.
1	FILTER COVER	2
2	FILTER MEDIA PACK	1
3	FILTER CAGE	1
4	FILTER ASSEMBLY BASE	1



DROP INLET TRASH FILTER

NOT TO SCALE

STORMWATER MANAGEMENT TABLE

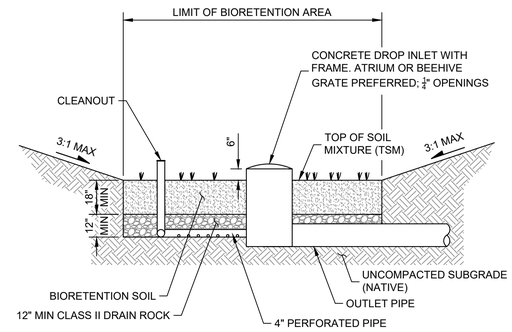
DMA	TOTAL AREA (SF)	IMPERVIOUS AREA (SF)	PERVIOUS AREA (SF)	EFFECTIVE IMPERVIOUS AREA (SF)	REQUIRED TREATMENT AREA (SF)	TREATMENT AREA PROVIDED (SF)
1	145,250	71,300	73,950	78,695	3,148	3,260
2	32,900	16,740	16,160	18,356	734	900

NOTES:

1. EFFECTIVE IMPERVIOUS AREA IS EQUAL TO THE TOTAL IMPERVIOUS AREA PLUS 0.1 TIMES THE TOTAL PERVIOUS AREA.
2. THE REQUIRED C.3 TREATMENT AREA IS CALCULATED USING THE 4% METHOD.
3. PROJECT SHALL INSTALL FULL TRASH CAPTURE DEVICES ON ALL STORM DRAIN INLETS.
4. STORM DRAIN AND TREATMENT FACILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
5. STORMWATER FACITLIES SHALL COMPLY WITH REQUIREMENTS IN THE 2019 BASMAA POST CONSTRUCTION MANUAL.
6. ALL DRAIN INLETS SHALL BE INSTALLED WITH FULL TRASH CAPTURE DEVICES AS SHOWN ON THIS SHEET OR SIMILAR.

LEGEND:

- PROJECT BOUNDARY
- DRAINAGE MANAGEMENT AREA
- 18" SD — PROPOSED STORM DRAIN
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN FIELD INLET
- PROPOSED BIORETENTION



TYPICAL BIORETENTION DETAIL

NOT TO SCALE

330 LAND COMPANY

1501 LUCAS VALLEY ROAD

MARIN COUNTY, CALIFORNIA

WHA

Architect: WHA Architects
5000 Executive Parkway, Suite 375
San Ramon, CA 94582
Contact: Adam Gardner
925.463.1700

CSW | ST2

Civil: CSW | ST2
5870 Stoneridge Mall Rd, Suite 203
Pleasanton, CA 94588
Contact: Michael Vidra
415.883.9850

STORMWATER CONTROL PLAN

C8.0

ENGINEER: MICHAEL VIDRA
LICENSE NO: 076690

DATE: 03.08.2024
PROJECT: 2300205.10