



Specification S21c– Bioretention Drainage Layer

Product Category

Enviromedia
Hydraulic Filtration Media

Quality system

FAWB – 3.01 (June 2009)

Formulation

Washed Fine Gravel (2-5mm)
(NB: Compliant with transition layer bridging requirements.)

Analysis

Physical

Particle Size Grading

>6.7mm	%	0.90
5.6-6.7mm	%	8.50
4.0-5.6mm	%	50.80
2.0-4.0mm	%	36.10
1.0-2.0mm	%	2.50
0.075-1.0mm		0.40
<0.075mm	%	0.80

Performance Factors

Uniformity Factor

D90	5.58
D15	2.63

General Information

This is a C-horizon Bioretention media which acts as a drainage layer collecting treated water and conveying it to sub-drain systems. This media forms a sub-surface horizon in a multi-layer installation. When used in isolation from its associated strata its performance may be compromised and will not be guaranteed.

NB: Material Data Sheets are available upon request.

Disclaimer

The information contained in this technical specification is current at the time of publication and applies to this specification manufactured by Australian Native Landscapes. We reserve the right to vary the specification without notice.

Bioretention Media – Handling & Installation

General

Water biofiltration is the process of improving storm water and wastewater by filtering it vertically through biologically influenced media. A typical system consists of a vegetated layer, over a multi strata filtration and drainage zone and if required an additional submerged zone strata. Alternatively, where a submerged zone is not a requirement, the drainage media will convey the water to sub-drain pipes.

Application

Bioretention systems can be integrated with streetscapes as an effective pretreatment for storm water harvesting. Instead of urban runoff going directly to drains it is collected on the surface of the Biofiltration system and filtered to improve water quality. They are an attractive landscape feature which is self-irrigating and fertilizing. They provide habitat and biodiversity values and offer a small footprint relative to their catchments.

Installation

As Biofiltration is a solution to water quality management, incorrect installation can compromise the Biofilter' performance and therefore the quality of water available for plants and the quality of water entering waterways. FAWB recommend that filter media be lightly compacted during installation to prevent particle migration. Heavy compaction and multiple passes should be avoided as this will compromise the filter media's hydraulic conductivity and performance.

Vegetation

Plants are essential for ensuring effective removal of nutrients as well as for maintaining long term infiltration capacity and hydraulic conductivity of the biofiltration system. Suitable species may be native or exotic however it is advisable that at least 50% of selected plants be species shown to be effective for nutrient removal.

If a submerged zone is not included, drought tolerant plants may be required. Planting density should be relatively high at water inlet points, as this will reduce water flow and prevent scouring.

Acknowledgement

FAWB - 3.01 (2009) Stormwater Biofiltration Systems - Adoption Guidelines developed by Monash University - Facility for Advancing Water Biofiltration, is acknowledged as a key reference and information source.

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