

SUSTAINABLE DRAINAGE SYSTEM STRATEGY Emmaus Bristol Rooftop Community



Introduction

The proposed rooftop development includes 15 low carbon, affordable, modular homes and communal space.

Flood Risk

The site is not located within a flood risk area, but surface water run-off from the existing building is evidently capable of contributing to flooding elsewhere.

Existing roof

The existing roof to Emmaus Bristol's office, shop and warehouse is constructed of felt (over the office and shop) and a standing seam (over the warehouse). It is a large, impermeable surface covering almost 0.2 ha's.

There is no existing surface water run-off attenuation system.

The strategy is, as such, to slow down the rate of surface water run-off, without adding significant weight to this rooftop development.

Proposed roofs

The existing surface water drainage rates from the roof will be significantly slowed down by the addition of lightweight sedum roofs on 60% of the proposed roof areas. We believe this will improve surface water attenuation rates by, on average, up to 40% compared to the existing situation at Backfields House. The sedum roofs will also improve biodiversity.

Additional features

A 'table' structure will be constructed to support the roof top community. This is an over-arching structural deck, which reinforces the existing structure containing office and retail space and provides an independent structural table to warehouse. The structural deck will contain services, such as power, drainage and water supply. If required, it may also be possible to include further surface water attenuation mechanisms within the structural deck.

The rooftop community includes communal space, with space for an allotment, trees and other plants. As such, it is also possible to include water butts or other rainwater storage systems that will assist in the reduction of surface water run-off from the roof.

Foul and Grey water

All foul and grey water will be disposed of via the mains sewer serving the existing building.