

Going with the flow

Managing rainfall with Sustainable Drainage Systems

What do SuDS do?

Without SuDS...



Development can increase the volume and speed of runoff which can cause flooding

Around 4 million households are at threat of surface water flooding



Pollutants can be washed into watercourses from surface water runoff

25% of water bodies fail standards due to diffuse water pollution from runoff



There is a lack of wildlife in urban areas

There is poor ecological connectivity (green and blue corridors) within our cities



In London 2/3 of front gardens are partially paved, reducing biodiversity and increasing surface water runoff

With UK population set to reach 70 million by 2028 there will be greater pressure on urban infrastructure



Manage water quantity

Manages local flood risk and protects the natural water cycle



Improve water quality

Manages the quality of surface water runoff to reduce pollution



Enhance biodiversity

Creates better places for nature



Provide amenity

Creates better places for people



Enable sustainable development

Reduces the need for additional and expensive underground sewerage infrastructure

Saves on costs

Heavy metal pollution in runoff was reduced by between 30% - 90% and very small sediments (which collect other pollutants) by nearly 90%

Reduces flow rates and volumes of surface water runoff and improves quality of the runoff

11% saving on construction costs when compared to traditional drainage and a 4% saving on maintenance costs

Proven environmental benefits through increased biodiversity and amenity spaces

Manages flood risk

Swales, rain gardens, wetlands, permeable paving, detention basins and a green roof were used in the school

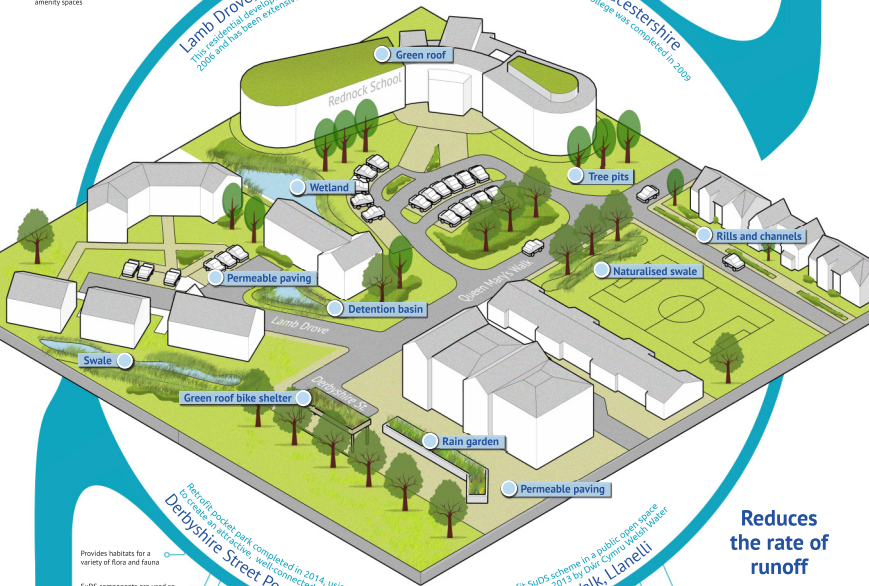
Manages surface water flood risk

Provides an attractive learning environment for the school children

A variety of SuDS components were used to prevent surface water runoff entering the combined sewer system and impacting the river

Lamb Drove, Cambridgeshire
This residential development was completed in 2006 and has been extensively monitored

Rednock School, Gloucestershire
This Science Demonstrator College was completed in 2009



Reduces the rate of runoff

Reduces combined sewer overflow (partial and sewage) spills into Loughor Estuary

Peak flow runoff rates reduced by 77%

Improves the quality of the local watercourse

Manages surface water flood risk

Provides an attractive public open space

Queen Mary's Walk, Llanelli
This retrofit SuDS scheme in a public open space was completed in 2013 by OAK Community Foundation

Derbyshire Street Pocket Park, London
This retrofit SuDS scheme in a public open space was completed in 2014, using SuDS to create an attractive, well-connected space

Community does the maintenance



Biodiverse

SuDS can be biodiverse landscape features that deliver many benefits

Flexible

SuDS includes landscape features and engineered hard components that can be integrated to manage surface water runoff

Slow the flow

SuDS are designed to slow water down and treat it before it enters our watercourses and sewers

Mimic nature

SuDS mimic nature and manage rainfall close to where it falls

Resilience

SuDS provide greater resilience to the challenges of climate change and population growth and help to deliver housing and workplaces

Cost effective

SuDS are able to reduce development costs and help to deliver housing and workplaces



SuDS create attractive, pleasant and useful places



SuDS create flourishing and ecologically diverse environments



SuDS manage surface water runoff flows and volumes from developments and make best use of water



SuDS treat a wide range of pollutants in surface water runoff

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A good SuDS scheme will work with the opportunities of a site to deliver improvements in flood risk management, water quality, amenity and biodiversity making great places to live

enquiries@susdrain.org @Sudsulike

susdrain.org