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

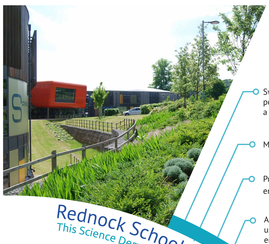
Heavy metal pollution in runoff was reduced by between 30% - 90% and very small sediments (which collect other pollutants) by nearly 90%

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

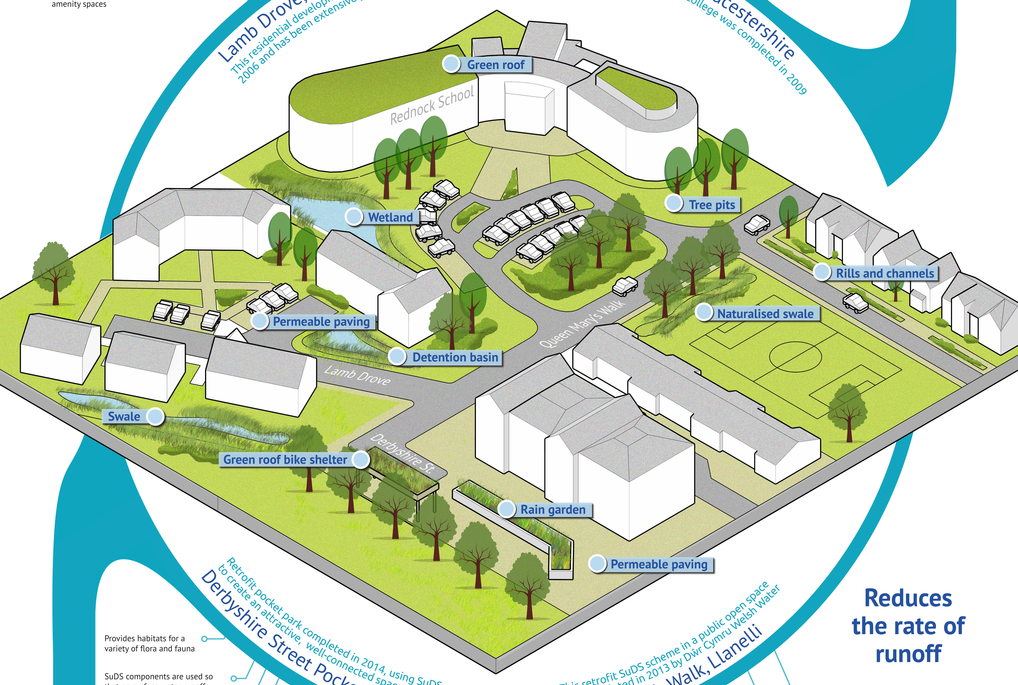
Lamb Drove, Cambridgeshire
This residential development was completed in 2006 and has been extensively monitored



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

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



Retrofit pocket park completed in 2014, using SuDS to create an attractive, well-connected space
Derbyshire Street Pocket Park, London

- Provides habitats for a variety of flora and fauna
- SuDS components are used so that no surface water runoff enters the sewer system
- Planters, permeable paving, rain gardens, green roofs, trees and a swale are used in the pocket park
- Manages surface water flood risk
- Provides an attractive local community area

Community does the maintenance

This retrofit SuDS scheme in a public open space was completed in 2013 by Dŵr Cymru Welsh Water
Queen Mary's Walk, Llanelli

Reduces the rate of runoff

- Reduces combined sewer overflow (rainfall and sewage) spills into Loughor Estuary
- Peak flow runoff rates reduces by 77%
- Improves the quality of the local watercourse
- Manages surface water flood risk
- Provides an attractive public open space

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

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

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