



## Welcome and overview

SuDS delivery and the Standards

[www.ciria.org/landform](http://www.ciria.org/landform)



LANDFORM is supported by



Network funder



Event supporter



[www.ciria.org/landform](http://www.ciria.org/landform)



## Purpose of LANDFORM



- Provide a platform for sharing knowledge and experience
- Enable communication between key stakeholders
- Ensure LAs are kept updated on developments
- Provide support
- Assist with delivery of roles and responsibilities

[www.ciria.org/landform](http://www.ciria.org/landform)



## Housekeeping



## Why SuDS – why now?



- SuDS Manual (and others)
- Flood and Water Mgt Act
- Regulation & Localism
- White Papers
  - Natures Way
  - Water for life
- Capacity Building Programme
  - Seminars and e-learning
  - Tools
- National Standards
- Retrofitting guidance
- Standards guidance



Photobucket

[www.ciria.org/landform](http://www.ciria.org/landform)



## Content of the day...

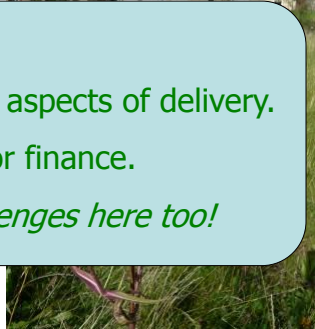


- Overview
- Design criteria



Focus is on the technical aspects of delivery.  
Not regulation, funding or finance.  
*We know there are challenges here too!*

- Localism...



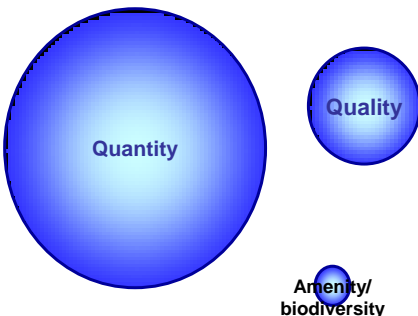
Lamb Drove, Cambourne

[www.ciria.org/landform](http://www.ciria.org/landform)

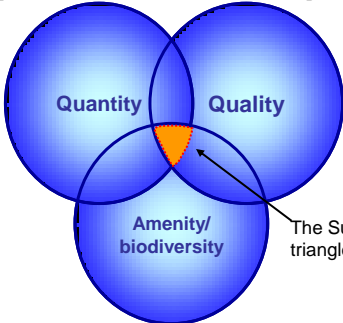


### Change in approach to drainage?

**Traditional approach**




**SuDS approach (As in the SuDS Manual)**



- Mimics natural drainage
- Minimise impacts on quantity and quality of runoff
- Maximise amenity and biodiversity opportunities (urban design)

### The SuDS philosophy

- Reduce runoff rates
- Reduce additional runoff volumes and frequencies
- Encourage natural groundwater recharge
- Reduce pollution and protect quality of receiving waters
- Reduce volume of surface water runoff to sewers
- Contribute amenity and aesthetic value to development (better places)

[www.ciria.org/landform](http://www.ciria.org/landform) 

## Principles and practice



SuDS philosophy – quality and quantity with amenity and biodiversity benefits using:

- **The management train** – SuDS components (treatment stages) in series
- **Source control** – runoff managed as close as possible to where it falls as rain
- **Sub-catchments** – division into small areas with different drainage characteristics and land use

[www.ciria.org/landform](http://www.ciria.org/landform)



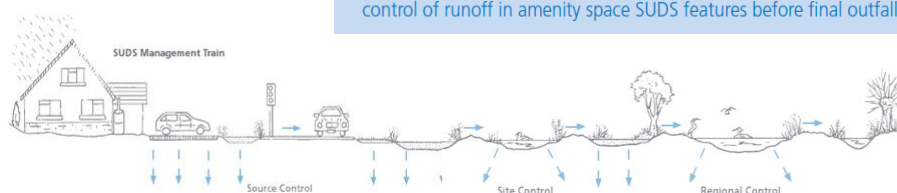
## 'The Management Train'

**Prevention**  
good housekeeping measures within development

**Source control**  
managing runoff at or near its source where it falls as rain

**Site control**  
dealing with runoff within or local to the development site

**Regional control**  
control of runoff in amenity space SuDS features before final outfall



[www.ciria.org/landform](http://www.ciria.org/landform)



## Coverage of the National Standards

- Part 1
  - Principles
  - Affordability
  - Functionality
- Part 2
  - (A) Runoff destination
  - (B) Peak flow rate & volume
  - (C) Water quality
  - (D) Function
    - Design
    - Flood risk
    - Operation and maintenance
    - Information...

[www.ciria.org/landform](http://www.ciria.org/landform)

## Principles in the Standards

- Surface water runoff is managed at **source** and **on the surface**
- **Multi-functional spaces** in public areas key such as parks, car-parks, footpaths and verges etc.
- Design to take account of **climate change / future development**
- Design is cost effective to operate and maintain over life of development.
- Others that are implicit...
  - No automatic right of connection
  - Drainage considered at the **earliest stage** of site selection and design.

[www.ciria.org/landform](http://www.ciria.org/landform)

## Section D - Function



- **Design**
  - Safe and energy efficient to operate
- **Flood risk**
  - Consider impact of rainfall on any part of the site
  - Flooding doesn't occur and exceedance is managed
- **Operation and management**
  - Safe to operate and maintain (approved drainage plan)
- **Information**
  - Responsible parties must be informed



*Provided by: Anthony McCloy*

[www.ciria.org/landform](http://www.ciria.org/landform)



## Challenges with the Standards?



- Resource and skills
- Affordability
- "Reasonable practicable"
- Exemptions ?
- Onus of proof?
- Biodiversity/amenity
- Managing liabilities
- Localism
  - Green infrastructure
  - Highways



*Stamford SuDS scheme  
Roger Nowell*

[www.ciria.org/landform](http://www.ciria.org/landform)



## Standards Vs SuDS Manual



- Level of detail
- Regulation Vs Guidance
- Delivery of multiple benefits
- Amenity & biodiversity
- Approach to water quality



Retrofit rain garden, Islington

[www.ciria.org/landform](http://www.ciria.org/landform)



## What's left to do?



- Consultation response
- Guidance
- Water quality
- Joining it up...
- Local standards
- Finances...
- Retrofitting

### Joining it up

- Water cycle
- Urban design and water
- Hard and soft SuDS
- Below and on the surface
- LA functions (Highways, GI etc)

### Finances

- Application fees can be charged
- Non performance bond can be requested = drainage cost
- Maintenance funded to 2018 by government
- Govt looking at long term funding

[www.ciria.org/landform](http://www.ciria.org/landform)





## What support is there



- CIRIA's SuDS website
- SuDS
- UK S
- CIRIA
  - LA
  - Su
  - WSU
  - Updating the SuDS Manual...



**CIRIA**

Paul Shaffer

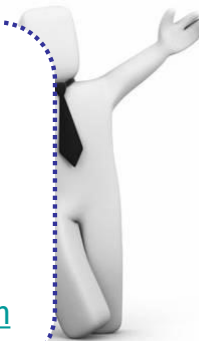
[paul.shaffer@ciria.org](mailto:paul.shaffer@ciria.org)



@sudsulike

[www.ciria.org/suds](http://www.ciria.org/suds)

[www.ciria.org/landform](http://www.ciria.org/landform)



[www.ciria.org/landform](http://www.ciria.org/landform)

