SuDS and Biodiversity

Policy Drivers for Biodiversity

- NPPF – S11 Conserving & Enhancing the Natural Environment
- NEWP – ecosystem services, GI & SuDS
- Biodiversity 2020
Why do it – in practice …

- High quality design – CABE guidance
- Multiple benefits - good value for money
- Biodiversity mitigation*
- Create buffer zones
- Integrate with POS and access provision
- Increase property value

* (note – not usually acceptable for GCN mitigation)

Planning Stage

- Build into Masterplanning
- Underpin by robust ecological survey
- Location is important – strategic positioning for buffer zones, green corridors etc
- Consider multiple benefits – POS etc
- Incorporate existing habitat of value
Concept Design Stage

- Team work – drainage engineer, landscape architect, ecologist
- Size, shape, profile & cross-sections
- Water depth & flooding frequency
- What plants?
- Fauna
- Management considerations

Approval Stage

- Consultation
- Detailed specification
- Planning conditions
Susdrain – SuDS not duds – getting the basics right

Construction Stage

- Ecological supervision & sign-off
- Method Statements
- CEMP
- Water quality & protected species considerations – fisheries, nesting birds, licences etc

Management Stage

- Establishment phase – 5yrs
- Monitoring & respond to issues – water depth, water quality, establishment failures, erosion control, algae
- Long term – Management Plan – tie in with POS/access/amenity and landscape requirements
- Vegetation management
- Ecological monitoring – invertebrates, birds, amphibians etc
KEY DESIGN CONSIDERATIONS FOR BIODIVERSITY

Defining target habitat structure
Selection of suitable plant species
Management requirements

Structurally diverse wetland
Selection of Suitable Plant Species

- Hydrological characteristics
- Water quality
- Appropriate to locality
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Concept Design Rolleston

Concept Design Framwellgate
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Mayfield Farm Heathrow

Reedbed Filter System
Cringleford

Cringleford, Norwich
Broadlands Business Park, Norwich

Potteric Carr, Doncaster

Two years after commissioning:
31 species of algae
37 aquatic plants (only 3 species planted)
77 invertebrate species (53 aquatic).
6 vertebrates (including water vole)
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Potteric Carr wetland

Reedbed habitat – after 15 years

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Catesby Business Park

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Catesby, Doncaster

Inlet of Catesby Business Park
SuDS wetland showing rafted wetland (2005)

Mature reedbed (2013)

Where to find more guidance …

- SuDS Manual - due soon
- Susdrain Checklists www.susdrain.org
- RSPB/WWT ‘Maximising the Potential for People and Wildlife’