Extreme SuDS!
SuDS Retrofit in Urban Communities

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Why I love SuDS

- Because it supports communities living more sustainably
- Because it creates more dynamic and interesting living environments
- Because it connects the different facets of urban design and our climate adaptation

Springhill Co-housing, Stroud (RBA)
Why I love retrofit SuDS

- It gives me a chance to right some of our wrongs – to ourselves and to nature

Stroud 2007

CSO into Thames, Vauxhall
Why I love retrofit SuDS

- It gives me a chance to right some of our wrongs – to ourselves and to nature

Photo: Theo Thomas, Thames21
Retrofit SuDS: Challenging

- you have to work with existing topography and constraints (requires deep interrogation and innovation)
- you have to work with an existing community and their needs
- resistance to change and new working practices
- lack of knowledge and experience in related professions
Retrofit SuDS: Opportunities

- use SuDS to enhance existing landscapes and give something back to the ‘host’ community
- right some of our past wrongs (sometimes these are quite huge!)
- design to different drivers – CSO, water quality, flooding, etc...
- stretch the definition of SuDS beyond surface water management...

Retrofit SuDS: Communities

- A retrofit SuDS installation rarely offers water quality or flooding benefits to the community within which it resides
- these benefits are usually further down the catchment and sometimes many miles away.
It is not enough for us to think that people should be happy to host a SuDS installation as a philanthropic burden. The proposals should be careful to give something back to their host community or they will be like a parasite.

Unusable SuDS interventions may lead to resentment and vandalism. Sterile land
Australia Road
Community Park (with SuDS)

Brief:
- Limit traffic on 100m stretch of road and introduce highway SuDS features.
- Keep the existing wall!

Redefined brief:
- Create linear community park.
- Improve links between school and playgrounds.
- Create a family orientated & playful hub space.
- Oh, and sometimes it fills up with water.
Susdrain – SuDS not duds – retrofitting
SuDS for maximum benefit

Australia Road
Community Park (with SuDS)

Australia Road
Community Park (with SuDS)
Renfrew Close Community Raingardens

- Three blocks of social housing flats.
- Uninspiring central green space.
- 2 pipe sewer system.
- Existing road and paths
Renfrew Close
Community Raingardens

Challenges:
Flowing with existing levels and features.

Renfrew Close
Community Raingardens

Challenges:
Making water flow up hill.
Susdrain – SuDS not duds – retrofitting
SuDS for maximum benefit

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Renfrew Close
Community Raingardens

Challenges:
Dealing with existing infrastructure.
  - Often services are not where they are on the Stat records.
  - Often there are other services not recorded.
  - Often services are shallower than they should be.
  - Detailed Services and Ground Penetrating Radar (GPR) surveys help.

Challenges:
Supervision essential!
Renfrew Close
Community Raingardens

Achievements: A functioning SuDS landscape that creates a dynamic place for all residents to enjoy.
Glenbrook, Enfield
Treating our polluted urban watercourses

The problem: Urban stream receiving road runoff and misconnections – highly polluted.

Glenbrook, Enfield
Treating our polluted urban watercourses

Objective: Create a bio-diverse landscape that is attractive to residents and treats polluted runoff.
Glenbrook, Enfield
Treating our polluted urban watercourses

Solution: Divert low flows and ‘first flush’ into a series of treatment wetlands.
Grovelands Park
Treating our polluted urban watercourses

The Problem: Surface water pipes feeding watercourse polluted with road runoff and misconnections.

Solution: Intercept pipes and divert into treatment swales and wetland basin before release into brook.
Grovelands Park
Treating our polluted urban watercourses

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In design development
Goldhawk Road – High Street SuDS
Taking road runoff through tree pits into storage/tree growing zone.
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Taking road runoff through tree pits into storage/tree growing zone.

In design development
Bury Lodge ‘SuDS Park’
Treating polluted surface water sewer and road runoff from the A10.
In design development
Bury Lodge ‘SuDS Park’

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Thank you