



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

Why I love retrofit SuDS

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CSO into Thames, Vauxhall

Why I love retrofit SuDS

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Polluted runoff

This slide features a black background with white text. The title 'Why I love retrofit SuDS' is at the top, followed by a blue water drop icon. A single bullet point is on the left. On the right is a photograph of a drainage ditch filled with dark, polluted water. The text 'Polluted runoff' is at the bottom left of the photo area.

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

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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

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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 : Opportunities

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.

Retrofit SuDS : Communities

- It is not enough for us to think that people should be happy to see SuDS installation as a philanthropic burden.
- The proposals should be careful to give something back to their host community, otherwise they will be like a parasite.



Retrofit SuDS : Communities

- 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!



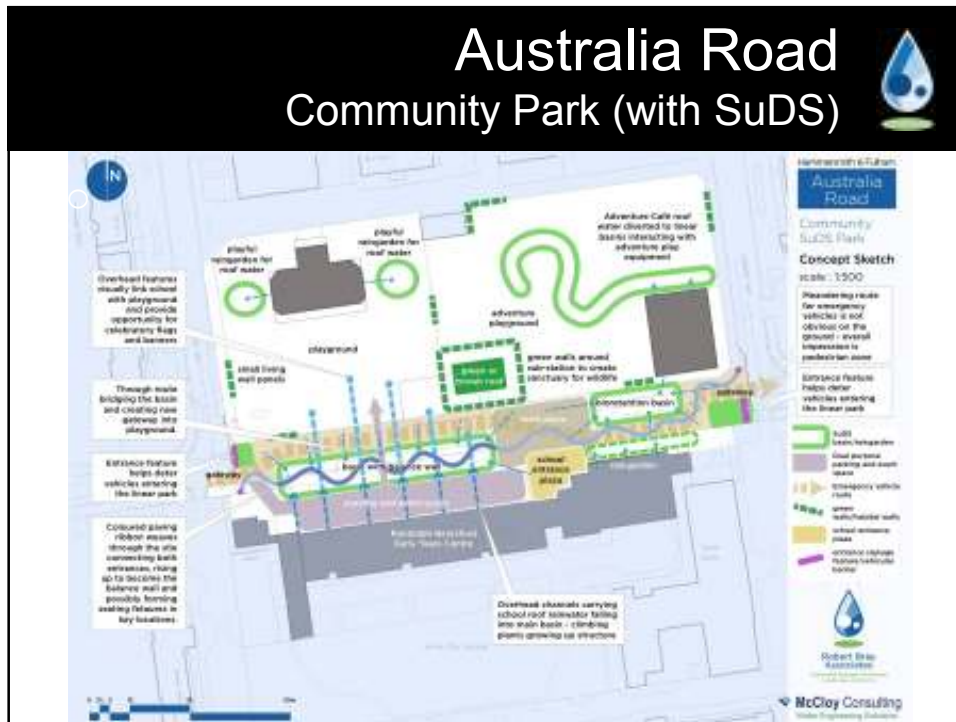
Australia Road Community Park (with SuDS)



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







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




Renfrew Close raingarden park

Raingarden Demonstration Project


- 4 Raingarden design styles
- 750m² Roof Area
- 1850m² Road Area
- 23 Raingarden Sites
- programme to create a 1 in 10 rainfall event
- Ornamental, Play and Wildlife Raingarden Park under grass lawn to accommodate a 1 in 100 + 30% rainfall event
- 4 separate methods
- improved amenity and biodiversity potential

Robert Bray Associates

Renfrew Close Community Raingardens



Challenges :
Flowing with existing levels and features.



Renfrew Close Community Raingardens



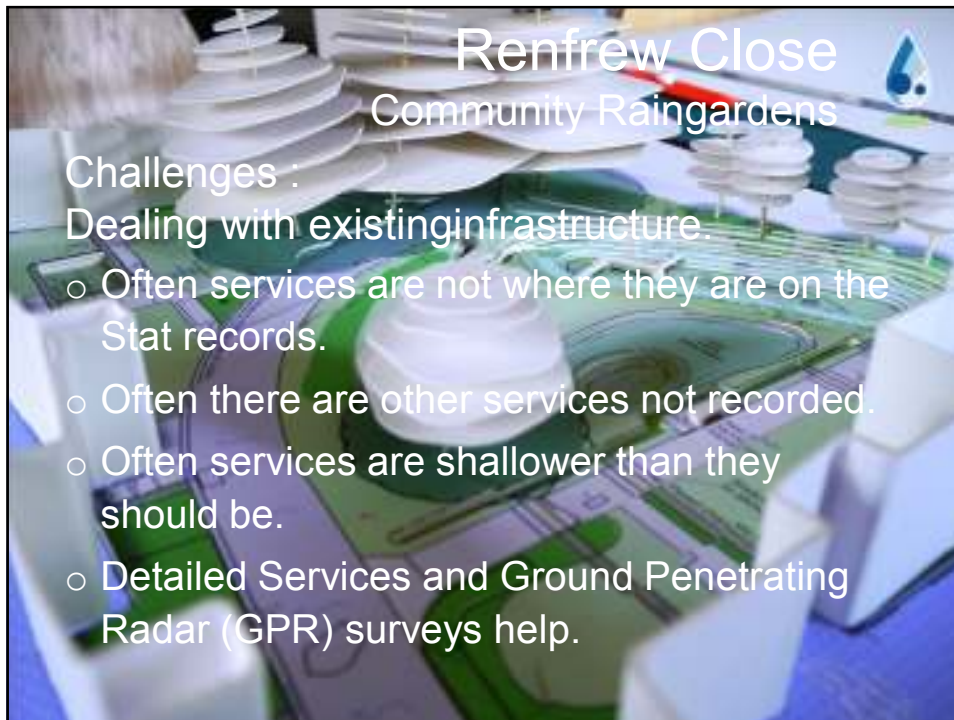
Challenges :
Making water flow up hill.



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.



Renfrew Close Community Raingardens

Challenges :

Supervision essential!



Renfrew Close Community Raingardens



Achievements : A functioning SuDS landscape that creates a dynamic place for all residents to enjoy.



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

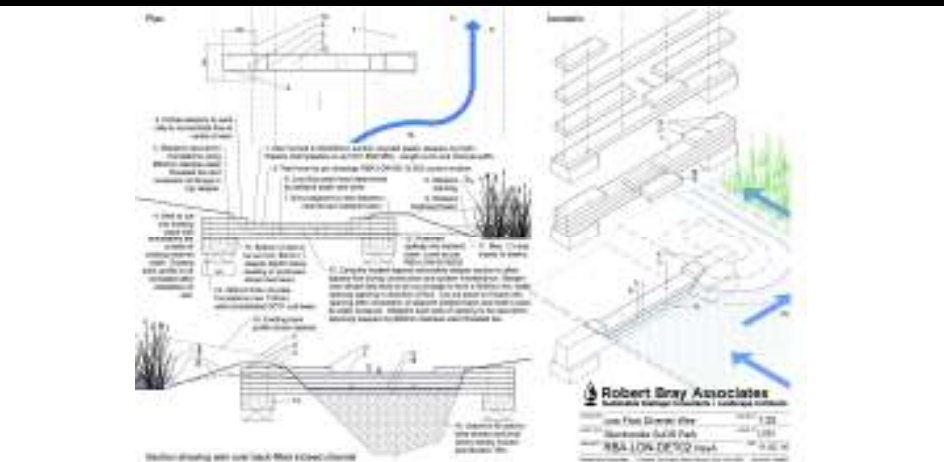
Objective : Create a bio-diverse landscape that is attractive to residents and treats polluted runoff.



Glenbrook, Enfield

Treating our polluted urban watercourses

Solution : Divert low flows and 'first flush' into a series of treatment wetlands.



The technical drawing consists of a plan view on the left and an elevation view on the right. The plan view shows a series of rectangular basins connected in a sequence, with a blue arrow indicating the flow direction. The elevation view shows the vertical profile of the basins, with water levels and flow paths indicated. Detailed annotations in small text describe the various components and materials used in the system, such as gravel, sand, and vegetation. The drawing is signed by Robert Gray Associates.

Glenbrook, Enfield

Treating our polluted urban watercourses

Solution : Divert low flows and 'first flush' into a series of treatment wetlands.



The two photographs show the treatment wetland system in a natural setting. The left photograph shows a wide, shallow basin with a concrete structure in the foreground and a stream of water flowing through it. The right photograph shows a similar basin with a concrete structure in the foreground and a stream of water flowing through it, surrounded by trees and vegetation.



Grovelands Park



Treating our polluted urban watercourses

Solution : Intercept pipes and divert into treatment swales and wetland basin before release into brook.



Grovelands Park



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In design development



Goldhawk Road – High Street SuDS

Taking road runoff through tree pits into storage/tree growing zone.



