

Woodberry Down Regeneration, London



SuDS used

- *Green and brown roofs (4, 700 m²)*
- *Rain water harvesting*
- *Permeable paving (1, 000 m²)*
- *Swales and infiltration trenches*
- *Biodiverse and pollinator centric planting*
- *Tree planting (c. 300 trees)*
- *River and reservoirs with surrounding wetland*

Benefits

- *Amenity space with a focus on play for the community to enjoy*
- *Good water management – storm water runoff and reuse for irrigation*
- *Ecological value – increased biodiversity through native planting and habitat creation*
- *Improved, safer, pedestrian routes*
- *Increased connectivity within the site contributing to a sense of place*

1. Location

Woodberry Down, Hackney, N4 2BA, 51°34'15.0"N 0°05'21.8"W

2. Description

Woodberry Down is a 30 year regeneration project of a post war social housing estate, straddling Seven Sisters Road in North London. The existing 42 1960s residential blocks had fallen into disrepair. So far 1,479 new homes (of which 736 are affordable) and 6.61 acres of public green space have been delivered [2018]. The site includes two schools, retail space and a community centre. Situated next to two reservoirs (amounting to 42 acres) 'making the most of the water' was a key theme from the outset of the masterplan. These reservoirs were opened to the public as part of the scheme in 2016. The Woodberry Wetlands are managed by the London Wildlife Trust.

3. Main SuDS components used

The SuDS management train has been integrated into the design and implementation of the project; list of components as above, and details below.

See attached drainage plan showing Spring Park, a completed portion of the scheme.

4. How it works

Source control

- Rainwater harvesting is included in each phase of the development. This water is re-used for irrigation of the landscaped areas, reducing stress on the potable water supply.
- Green and brown roofs intercept run-off and increase evapotranspiration and improve the quality of runoff (see cover image).
- Permeable paving reduces surface water run off rates.
- Increased tree cover and planting increases infiltration loss.

Pretreatment/conveyance

- Surface water flows along gently sloping grassy routes. These are integrated with play apparatus and features such as wiggly walls, bridges and seating boulders to encourage interaction between the residents and visitors and the natural environment.
- Vegetated swales and infiltration trenches (shallow winding trenches filled with crushed stone) remove pollutants from surface water, improving water quality as well as creating additional habitat. Swales are unlined to allow infiltration.

See Figures A and B.

Regional control

- These planted basins and infiltration trenches can fill with stormwater during heavy rain, reducing flood risk

See Figure C.

- Cellular storage tanks beneath the ground collect surface water, reducing flood risk in extreme weather. For example, 383.6m³ of storage is provided under Spring Park (*as seen in the attached drainage plan*).

Local discharge

- The linear green spaces extend from within the main body of the site down towards the New River and East and West Reservoirs, which form the Southern boundary of the project, improving connectivity and the opportunity for water to soak into the ground. There is a gentle slope towards the wetlands surrounding the reservoirs.

See Figures D and E.

5. Specific Project details

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6. Maintenance and Operation

The maintenance of completed areas are split between London Borough of Hackney Parks and Open Spaces and London Borough of Hackney Highways with a small area around each building maintained by the Berkeley Estates Management Team. This is done in line with the management plan as stipulated by the landscape architects, Murdoch Wickham. The Woodberry Wetlands is managed by the London Wildlife Trust.

7. Monitoring & Evaluation

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8. Benefits and achievements

SuDS have been considered as interconnected features and have been used as a core element of the masterplan to increase connectivity between phases of the development. Multiple functions have been achieved, such as the creation of valuable amenity and play space, biodiverse and attractive landscaping, and improved surface water quality and management. The outdoor spaces are well used and the SuDS have positively influenced the character of the development, creating a space for nature in a highly urban area. The SuDS have been adopted by the council.

9. Lessons learnt

- Partnership work has helped to secure the success of the scheme, and early engagement was important for design success.
- Planting strategy has evolved over the phases from specific aquatic species to more of a native wild flower mix to encourage greater biodiversity.
- SuDS can make a significant positive change to the character of large housing estates.
- Integrated schemes can provide multiple uses and benefits for residents and nature.
- Important to consider the natural features of the area, for example in this scheme drainage features lead down towards the Woodberry Wetlands.

10. Interaction with local authority

Berkeley Homes in Woodberry Down have been committed to deliver sustainable solutions to flood risk. This has been supported by our partner the London Brough of Hackney.

11. Project details

Construction completed: Woodberry Down is 5, 584 home estate regeneration scheme which will complete in 2035. The earliest parts of the scheme completed in 2013.

Extent: Total site is 64 acres.

12. Project team

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Clients	<ul style="list-style-type: none"> Berkeley Homes North East London
Designers	<ul style="list-style-type: none"> Murdoch Wickham
Engineers	<ul style="list-style-type: none"> Gravity CE / Ardent CE
Contractors	<ul style="list-style-type: none"> Elite Landscapes
Partners of the Regeneration	<ul style="list-style-type: none"> Hackney Council Genesis Woodberry Down Community Organisation (residents committee)

13. Site images and illustrations



Fig 1 – Spring Park: showing play elements (apparatus, boulders and bridges) alongside infiltration trenches, gentle slopes, new trees and other native planting.



Fig 2 – Play/seating boulders integrate the partially planted swale as a multifunctional landscaping feature, bordered by newly planted trees and a permeable path.



Fig 3 – Surface water collected in an infiltration trench following a storm event, next to the New River and West Reservoir



Fig 4 - Overall site plan for Woodberry Down, with green spaces extending towards the reservoirs.



Fig 5 – Example of how SuDS have been used to link areas of the scheme and give character.