

partnership for  
**Biodiversity in Planning**

SMALL DEVELOPMENT CASE STUDY:

SPRINGHILL COHOUSING COMMUNITY, STROUD



PHOTO © ROBERT BRAY ASSOCIATES

## BACKGROUND TO THE PROJECT

*This site demonstrates that developments can be co-designed with residents to work for water, people and wildlife...*

Springhill was the first cohousing project to be built in the UK and was designed by Architype Architects with the landscaping designed by Robert Bray Associates. As part of the cohousing approach, all residents signed a pledge which committed them to a shared community philosophy. The cohousing founder, David Michael, identified a small (2 acre) derelict urban site, with little pre-existing ecological value except some surrounding trees. A personal loan enabled the founder to purchase the land in 2000. Planning permission was granted in 2001 and construction was completed in the spring of 2005. It cost £4,500,000 to design and construct.

The scheme has been planned, owned and managed by the cohousing residents who now live onsite and share activities like cooking meals, childcare, gardening and administration. The completed site includes 35 private houses, flats and studios, using a timber frame construction, 'super-insulated' energy efficient design, and sustainable drainage systems (SuDS).

## COLLABORATIVE DESIGN COMBINING CLIMATE RESILIENCE, LANDSCAPE ECOLOGY AND WELLBEING

The client (The cohousing company Ltd.), architect (Architype, with architect Pat Borer) and sustainable drainage designers and landscape architect (Robert Bray Associates) worked together to integrate housing and landscape within the site. The residents were involved in the design process shortly after the density and design brief were established.

The design is contemporary and sets high standards for environmental performance, housing and landscape design in suburban environments. This was recognized when Springhill received the deputy Prime ministers' sustainability award in 2005.

The site is arranged in a courtyard formation, so the outdoor space is communal with small private gardens. Approximately one third of the site was retained for soft landscape and allotment gardens. Car access is limited along one edge of the site with limited car onsite parking spaces, in order to generate a safe, peaceful, and play-orientated neighbourhood. This also helps to reduce the exposure of residents and wildlife to air pollutants.



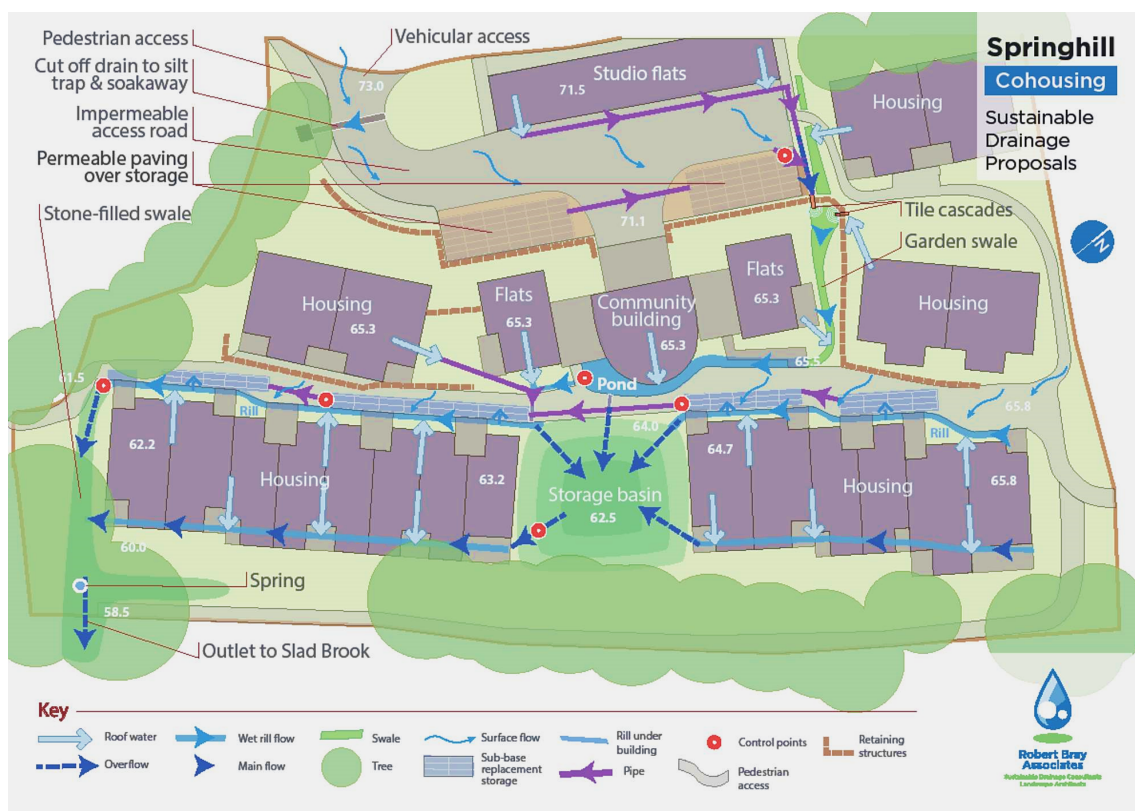
RAINWATER GARDEN LINKING HOMES TO PUBLIC REALM © RB ASSOCIATES

## SUSTAINABLE DRAINAGE SYSTEMS PROMOTING ECOSYSTEM FUNCTIONING

The landscape architect team included trained botanists with a strong understanding of plant-based ecology. A key ecological question for the design and construction related to managing the 'blue infrastructure' or water through careful landscape design and installing 'green infrastructure' around the site. Although Springhill is situated on a steep slope the team showed it is still possible to adopt effective SuDs to complement the 'green' credentials of the development, and at lower cost than traditional drainage systems. The site has a complex geology, with free draining Cotswold brash (oolitic limestone), at the top of the site and clay towards the bottom of the site. It was difficult to estimate the permeability of the soil following construction despite a full hydrological assessment. Therefore a conservative approach was taken to the storage of run-off for the site. The designers wanted to see how sustainable rainwater design could be used to enhance both landscape quality and the sense of place. This included adopting

features such as 'rills' (water flow channels) along paths and a formal pond. The planning authority (Stroud District Council) required most of the pre-existing trees to be retained, which helped to maintain existing ecology, as well as further enhance water management and soil quality. The participatory design dialogue with the residents also helped the designers to create a system that could be easily understood and maintained, without specialist knowledge or tools.

The SuDS at Springhill help link spaces and habitats together, and aim to link people to these spaces too. The SuDS design aims to promote a sense of cohesion, while at the same time demarcating the space for different end uses. For example, the street rills help to define the thresholds between private homes space and public thoroughfares, as well as link gardens, play spaces, roadways, and sub-catchments. The rainwater features support a diverse range of plant species and create a beautiful landscape, soundscape and habitat for wildlife. Wildlife-friendly drainage techniques were used in order to avoid the life-threatening hazards that conventional drainage features, such as gullies, channel drains and pipes, present to amphibians and other wildlife.



SPRINGHILL SITE PLAN WITH SuDS FEATURES © ROBERT BRAY ASSOCIATES

The team closely followed national guidance on SuDS, which recommends that planning applicants should discuss their designs with the Local Planning Authority, to ensure they meet local planning requirements, including regarding biodiversity and water quality (Lasoo, 2016). This dialogue, high environmental standards and social engagement helped the Springhill application to pass smoothly through to planning consent.

## LESSONS LEARNT

Unusually for smaller developments, a post-occupancy evaluation was conducted five years after the site was completed, between 2010 and 2011. The study highlighted the considerable value of early involvement of residents in the design process, which helped to support the legacy of a well maintained and beautiful location:

*“There was a remarkable sense of environmental and resident satisfaction, which can be attributed to the residents being part of the design and delivery of their own homes and having ownership over their design and construction.”* Architype

The post-occupancy evaluation identified a variety of wildlife living amongst the SuDS, including frogs, newts, dragonflies, other aquatic invertebrates, as well as wetland plants and birds. The vegetated swales, rill and channels all promote ecological connectivity and the pond was identified as especially valuable for wildlife (Graham, 2017).

David, the cohousing founder and managing director, recognised that the project had faced some challenges, including slower decision-making as a result of encouraging wider engagement. He noted however, there was also considerable benefits of working more collaboratively, including a greater sense of responsibility and ownership by the residents to effectively manage and care for the site.



© ALEX CAMINADA

## FURTHER LINKS

- Springhill Cohousing (client): [www.springhillcohousing.com](http://www.springhillcohousing.com)
- Robert Bray Associates (landscape architect): [www.robertbrayassociates.co.uk/projects/springhill-cohousing/](http://www.robertbrayassociates.co.uk/projects/springhill-cohousing/)
- Architype (architects): [architype.co.uk/project/springhill-co-housing/](http://architype.co.uk/project/springhill-co-housing/)
- Lasoo (2016) *Non-Technical Guidance to SuDS* [https://www.susdrain.org/files/resources/other-guidance/lasoo\\_non\\_statutory\\_suds\\_technical\\_standards\\_guidance\\_2016\\_.pdf](https://www.susdrain.org/files/resources/other-guidance/lasoo_non_statutory_suds_technical_standards_guidance_2016_.pdf)
- SusDrain (website) *Biodiversity and Ecology*. Benefits of SuDS. [https://www.susdrain.org/delivering-suds/using-suds/benefits-of-suds/Biodiversity\\_and\\_ecology](https://www.susdrain.org/delivering-suds/using-suds/benefits-of-suds/Biodiversity_and_ecology)
- Graham, A. (2017) *Sustainable Surface Water Management: A Handbook for SUDS*, edited by Susanne M. Charlesworth, Colin A. Booth. Wiley Blackwell p103-104
- SusDrain (website) *Springhill Cohousing development*. case study [www.susdrain.org/case-studies/case\\_studies/springhill\\_cohousing\\_development\\_springfield\\_road\\_stroud\\_goucestershire.html](http://www.susdrain.org/case-studies/case_studies/springhill_cohousing_development_springfield_road_stroud_goucestershire.html)
- Springhill (2014) *A short history of Springhill Cohousing community (1999 – 2005)* [www.springhill.co/uploads/2/7/6/5/27658277/a\\_short\\_history\\_of\\_springhill\\_cohousing\\_community\\_feb\\_2013-4.pdf](http://www.springhill.co/uploads/2/7/6/5/27658277/a_short_history_of_springhill_cohousing_community_feb_2013-4.pdf)