



The Design Team

Maximising nature connectedness and measuring outcomes

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Department
for Education

Loosen Copy

building bulletin

DEPARTMENT OF EDUCATION
AND SCIENCE

LIBRARY REFERENCE 1
A & S. Library.

NEW
PRIMARY SCHOOLS
(Second Edition)

*1949
Reprint*



75 years of the Design Team

Setting standards
for good education
buildings since
1949.

**ENSURING ALL
SCHOOLS AND
COLLEGES ARE:**



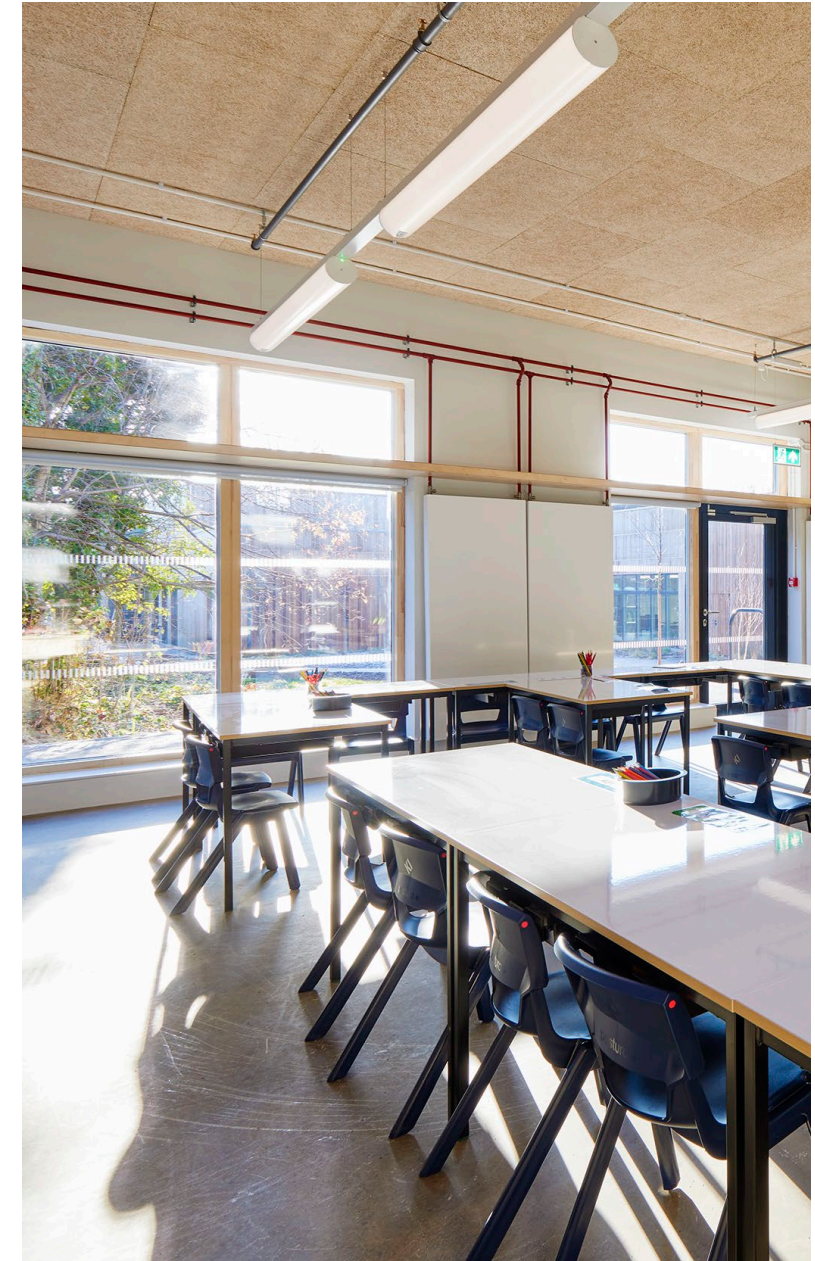
**HEALTHY AND
PRODUCTIVE**



THE RIGHT SIZE

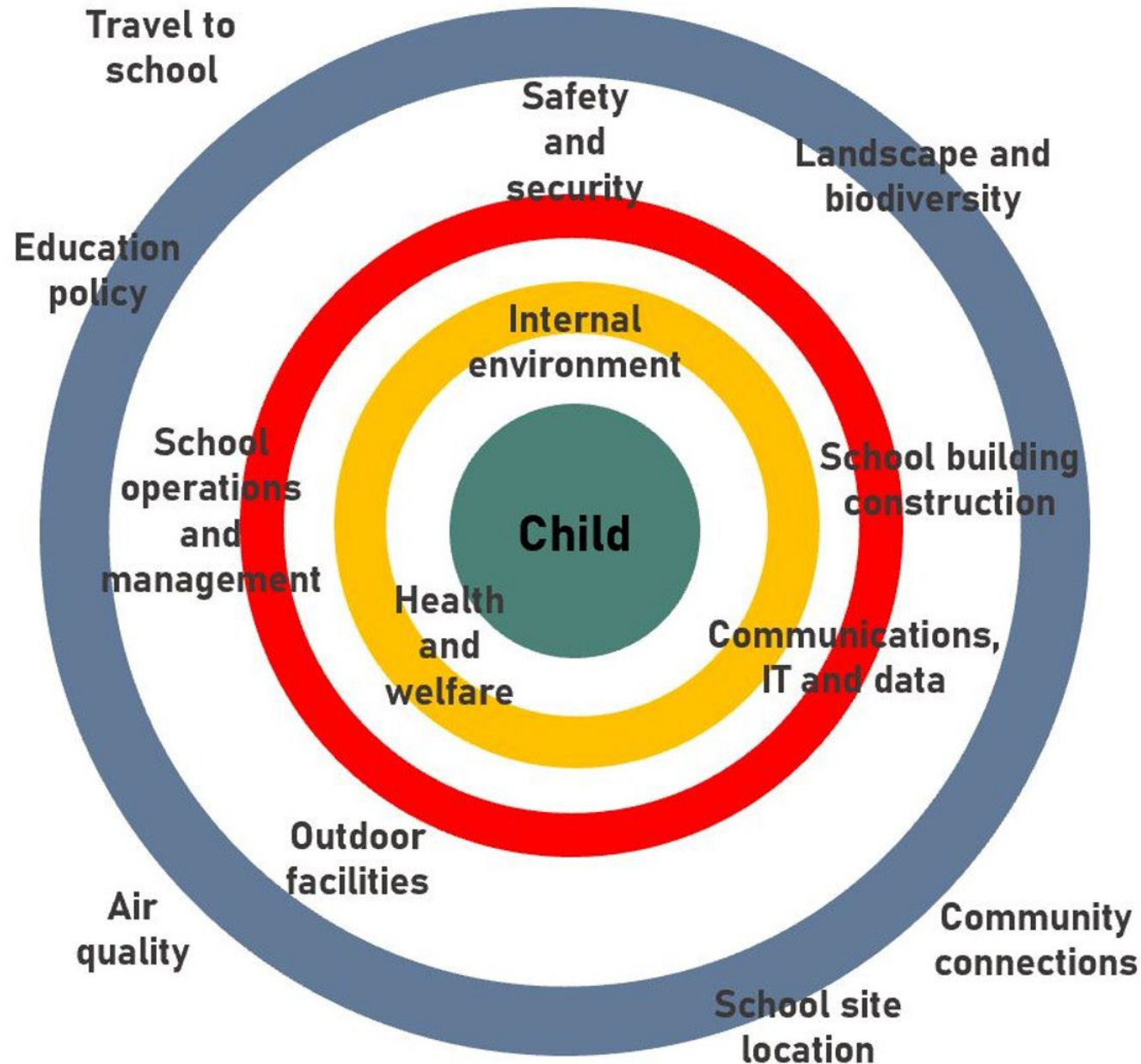


**SAFE, SECURE AND
SUSTAINABLE**



The ecology of the school

The key relationships of elements of a good school with one another and to the outside, placing the child at the centre of everything that is done.





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St Mary's Primary School, Derby
The UK's first purpose-built biophilic primary school



Department
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St Mary's Primary School, Derby

The UK's first purpose-designed and built biophilic primary school

St Mary's
CATHOLIC VOLUNTARY ACADEMY



Creating a new garden school: The Brief

St Mary's is a project that promotes the engagement between the interior and its natural setting. St Mary's school grounds work to existing topography to create an accessible landscape where planting is brought close to the buildings and the entire external setting encourages nature connectedness working to a structured biophilic brief.

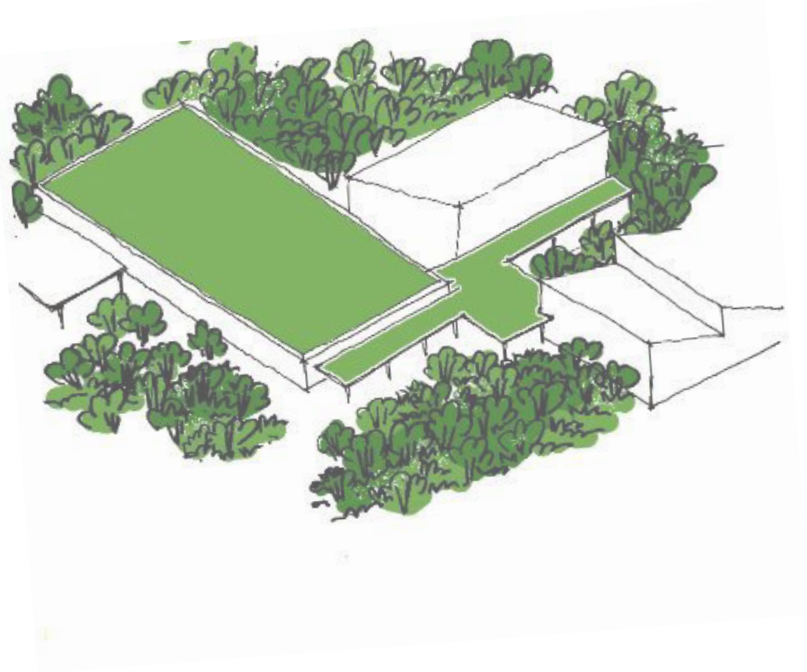




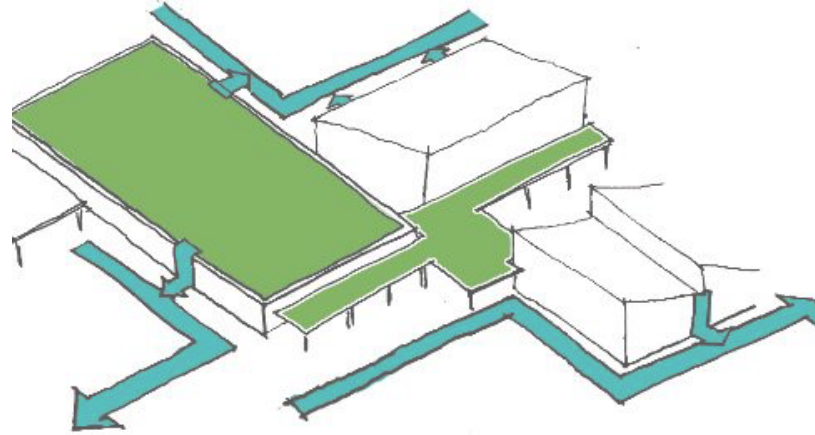
St Mary's Catholic Voluntary Academy, a biophilic school, Derby

The design of the school works to biophilic design principles focused around inviting, integrating opening up and assembling, with a biophilic brief delivering key biophilic principles: Play & Adventure, Learning Landscapes, Materials, Natural World, Sanctuary, Connecting Buildings with Nature and Sensory.

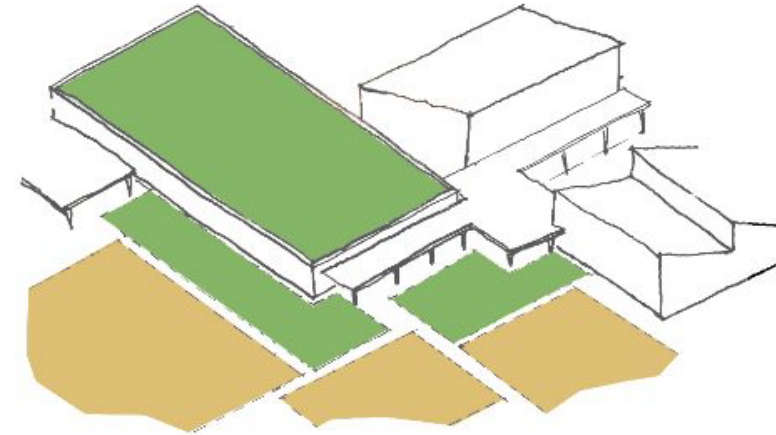
Protective Landscape



Integrated SuDS



Meaningful Spaces



A Biophilic Approach

- Accessing quality green spaces
- Nature and health outcomes are being delivered
- Climate adaptation outcomes: reducing flooding/overheating



A Biophilic Approach

- Main arrival point closely connected to main site entrance
- Clusters connected by an outdoor, covered circulation route
- Clusters arranged into year groups with a clear sense of graduation between ages
- Integration of landscape into building footprint
- All classrooms have access to outside courtyards





Protective landscapes



Integrated nature-based SuDS



Meaningful Spaces



Evaluating the new garden school

Evaluating the impact of biophilic design on education attainment, wellbeing and sustainable literacy.

Study 1

To explore the impact of biophilic school design on children's attainment, wellbeing, nature connectedness and pro-nature behaviours.

To explore the impact of biophilic school design on teacher's workplace wellbeing, nature connectedness and perceived stress.

Study 2

To explore what aspects of biophilic school design fosters engagement with nature, and contributes to children's wellbeing, nature connection and learning experience using photovoice and focus groups.

Study 3

To explore the impact of biophilic design on teacher's workplace wellbeing, the teaching experience and children's attainment and wellbeing from the teacher's perspective.

St Mary's Biophilic School: PhD Focus Areas



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Every School a Garden School

... it should be pointed out that [plants and trees] have not been introduced for their architectural merit, but rather to show how any simple and restrained style of building may be made more attractive by Garden First methods. *William Webb, Garden First*



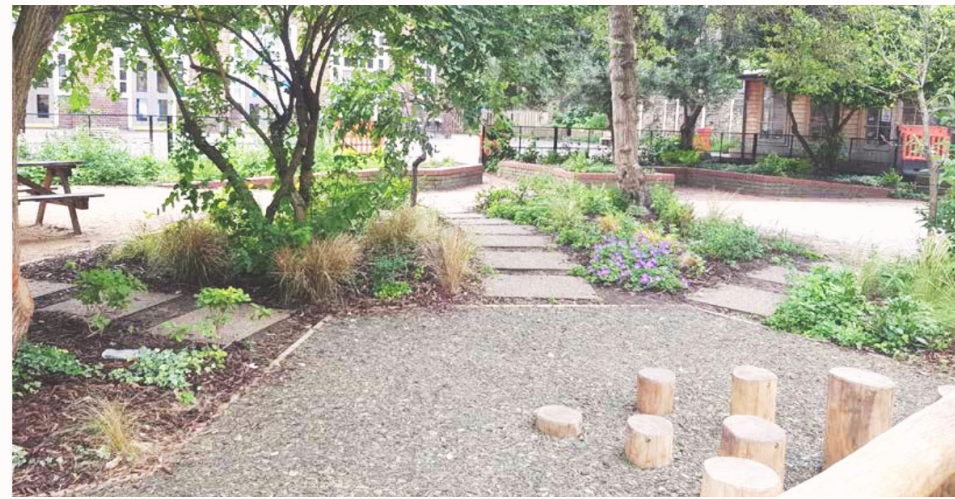
Boosting nature in education

Nature is in trouble, and we know that young people and educators want to act and make a difference for the planet



A Garden School in Nature - National Education Nature Park

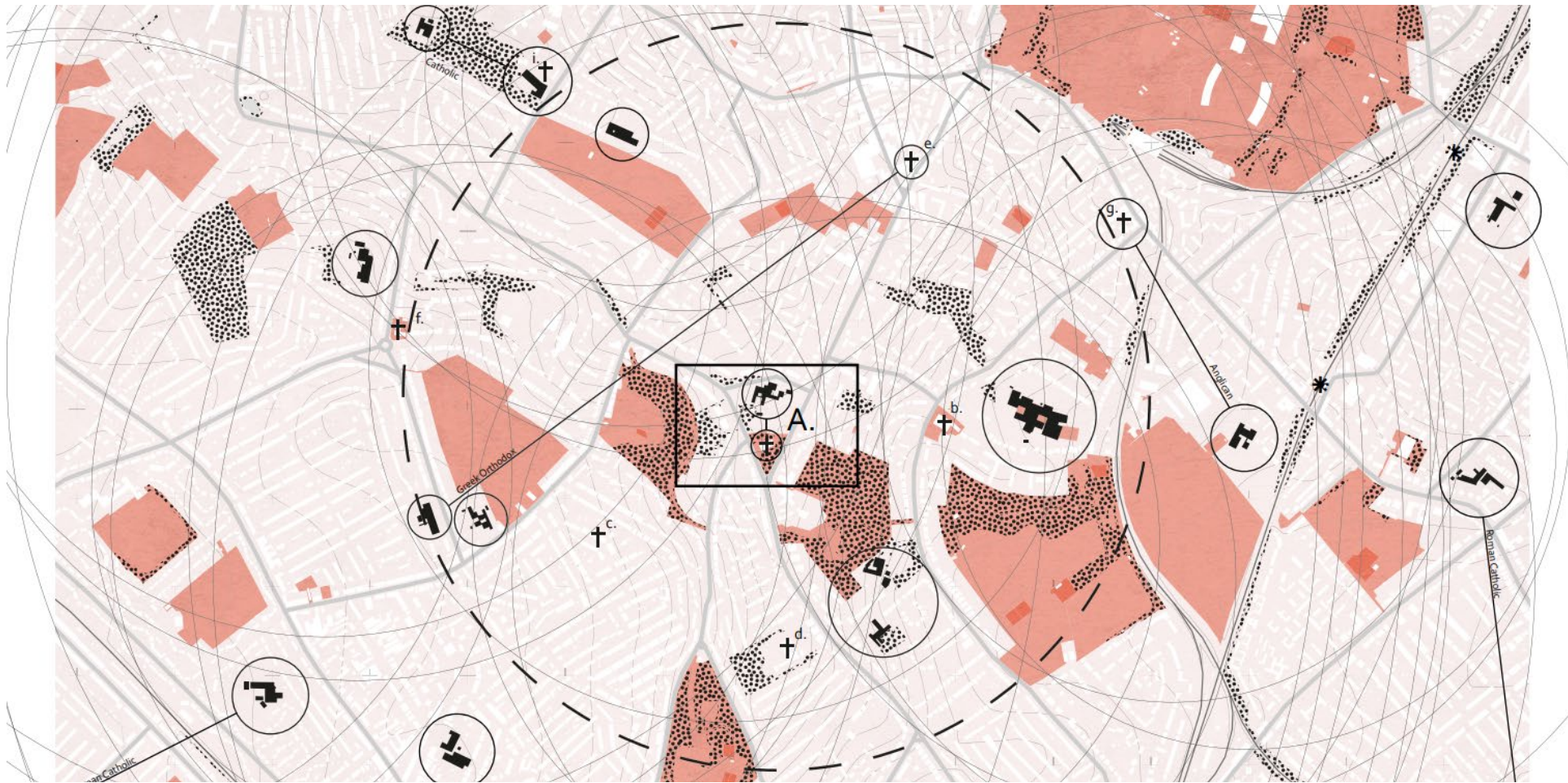
Schools and colleges to provide key access to nature for a daily dose of nature for millions of students. The outdoor environment for schools are to be greener, bolder and more inclusive set to meet a modern curriculum with a diversity of spaces designed to be multifunctional.



Trees for Cities

Schools and colleges as part of a regional approach to enhance nature recovery across England

88% of the education estate is the outdoor environment. The above map highlights the location of schools and colleges in England to show potential scale and connectivity of the National Education Nature Park. Working with schools/colleges, Natural England and Defra we can support organisations in enhancing their natural environment, feeding into wider local and national recovery network aspirations.



Aphra Das Gupta

Schools form part of nature recovery for communities

Schools and colleges to help defragment cities to provide nature recovery and site resilience by acting as a sponges for water, lungs to clean polluted air and green parks for flora, fauna and pupils to thrive.



Ks 0_Nursery and Reception. At this level children are taken on guided walks to identify and collect fallen seeds in the autumn. They are taught to recognise individual seeds and which trees they belong to.



Ks 1_Years 1 & 2. At this age children are taught to clean and sort the collected seeds into types and discard any that are rotten or not ripe enough. Through this children learn to recognise each tree by seed as well as signs of disease and damage.



Ks 2_Years 3 & 4. This age group is taught about propagation techniques and how to care for the seedling trees of different varieties. Through this exercise the children learn about the process of germination, how roots form and how to identify a tree by its burgeoning leaves.



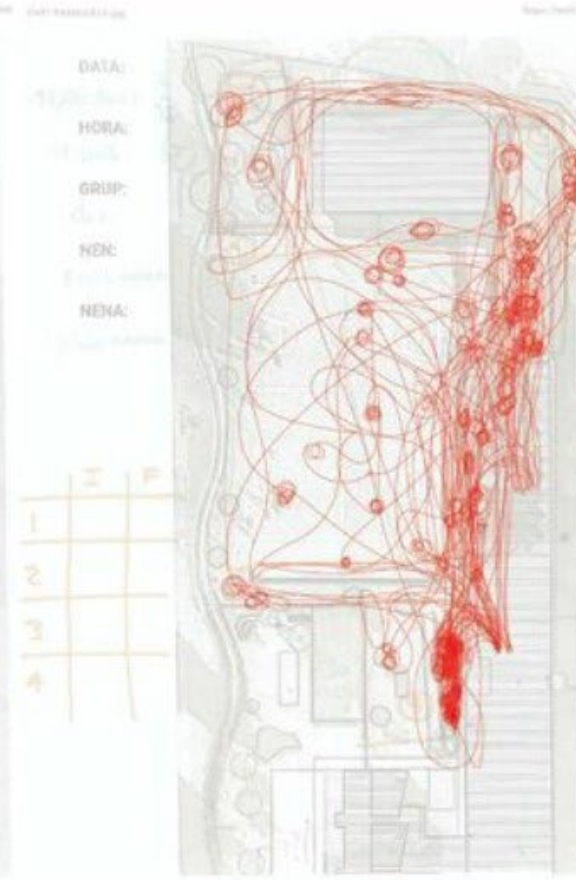
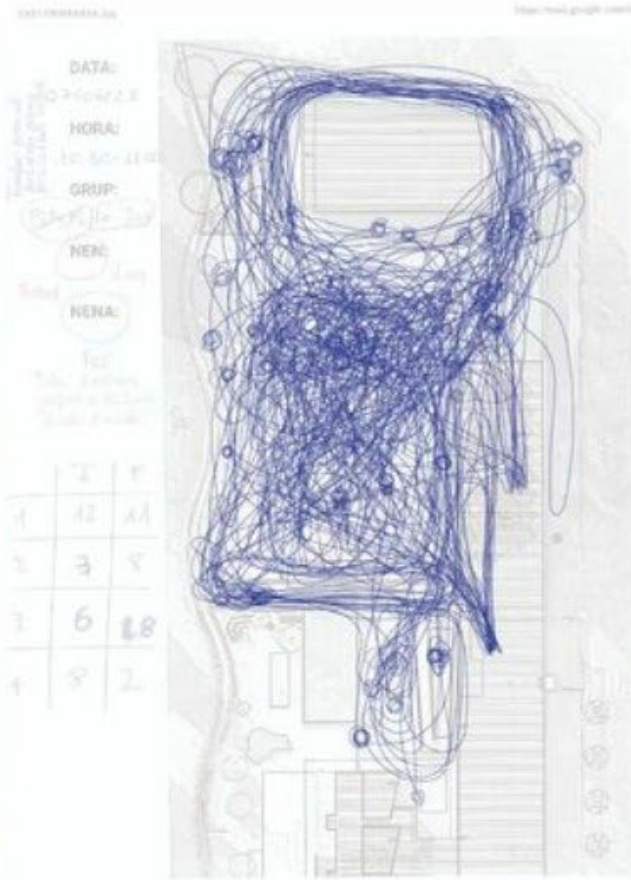
Ks 3_Years 5 & 6. At this point the young seedlings are now saplings and need planting out into nursery beds to develop their root ball more fully. Children learn about staking, root development and how to protect the young trees from pests and disease.



Teachers, parents and the wider community. Once the trees are large enough to be planted into their final position this is an opportunity to involve parents and the wider community. Tree planting should be a big event and something to celebrate.

Garden schools plant seeds for Nature Cities

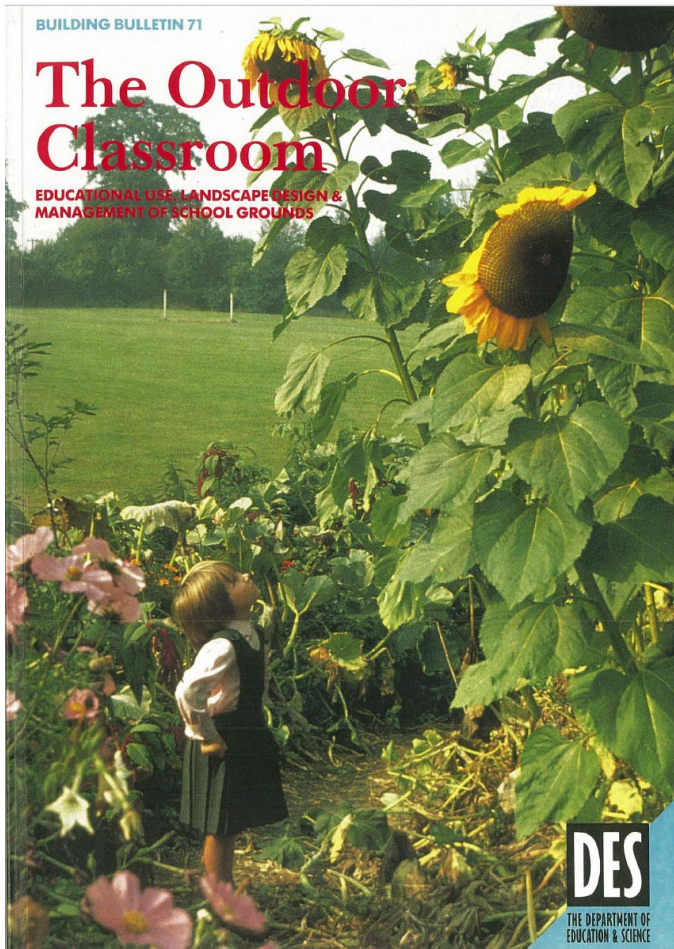
Plants and trees are planted and designed to grow up with the student, seeding the next generation of environmentally charged and civic-minded students.



@architektonicz

Healthy Schools – offer a variety of spaces

Movement patterns of boys/girls in a school playground in Spain suggests that use of space is not equal and the requirement for a variety of spaces to meet the needs of all users is required.

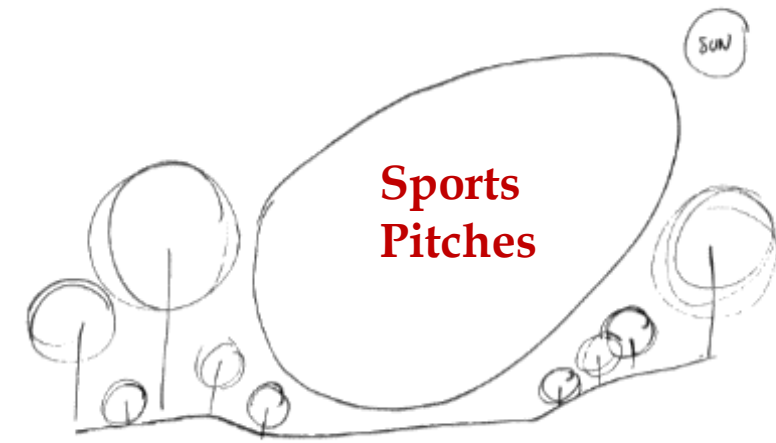


The Outdoor Classroom BB71 1990

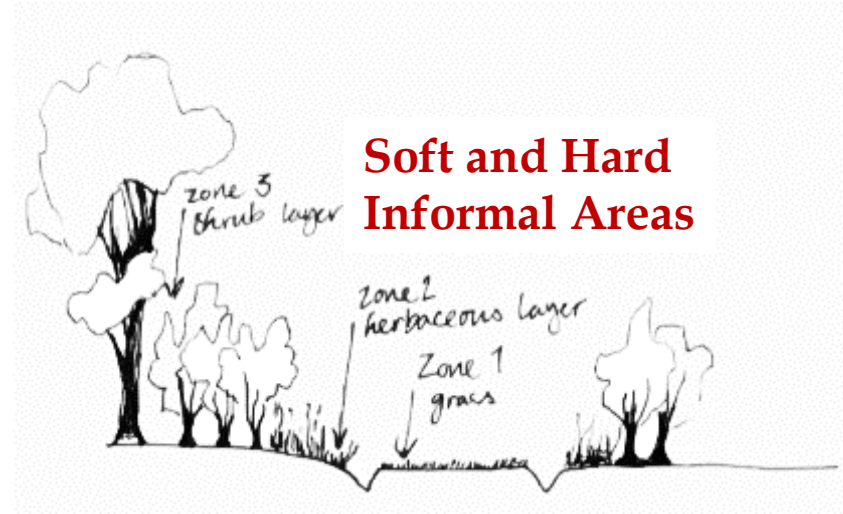
Healthy Schools - provide multifunctionality

What works for nature also works for students and staff. By reducing grey and improving the natural environment schools can build resilience, improved health and wellbeing and meet curriculum and environmental targets. Our standards will create a blended approach to nature and curriculum by introducing avenue tree planting through social areas, nature trails for PE and raingarden courtyards for resilience.

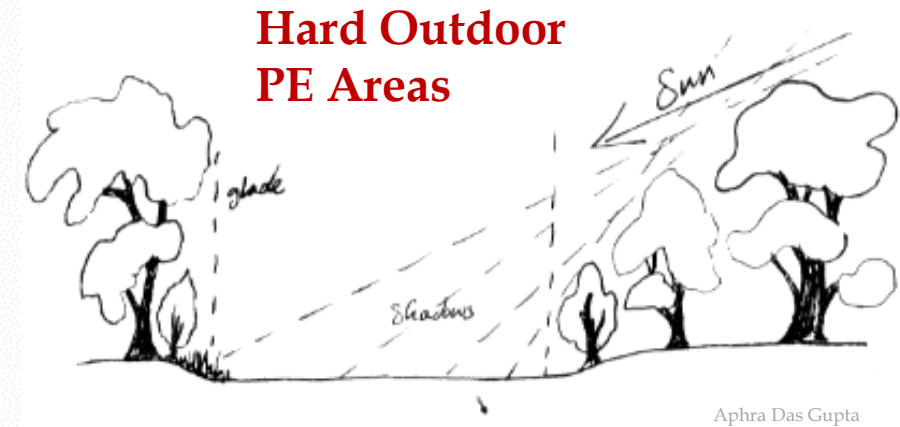
[THE GLADE]



[THE ECOTONE]



[THE SHADOW]



Healthy Schools - embed functional spaces into nature

Providing planted edge conditions where nature can thrive offers students the benefit from access to nature, experience of nature (sensory, shade, sun) as well as school resilience (reducing flood risk, improving air quality and reducing urban heat island effect).



Healthy Schools – a garden school in nature

Schools designed as a nature park have a variety of spaces that function for multiple purposes – MuGAs that act as flood basins when required, edges which provide for nature and people, planting that improves air quality and provides shade for school buildings.

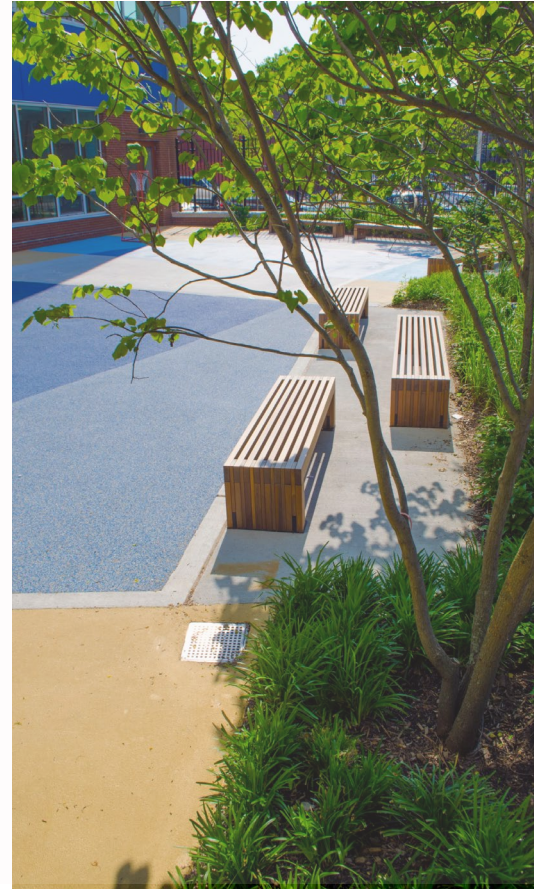
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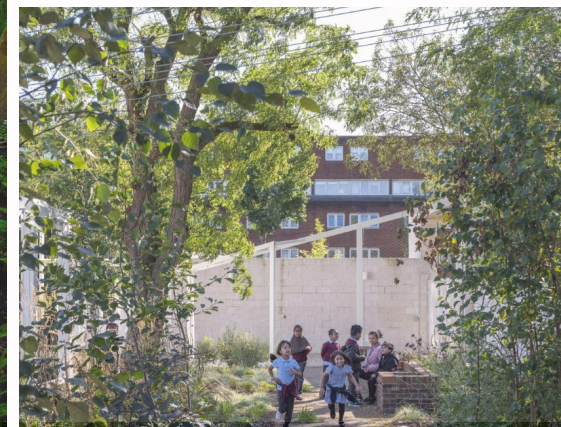
[open up]



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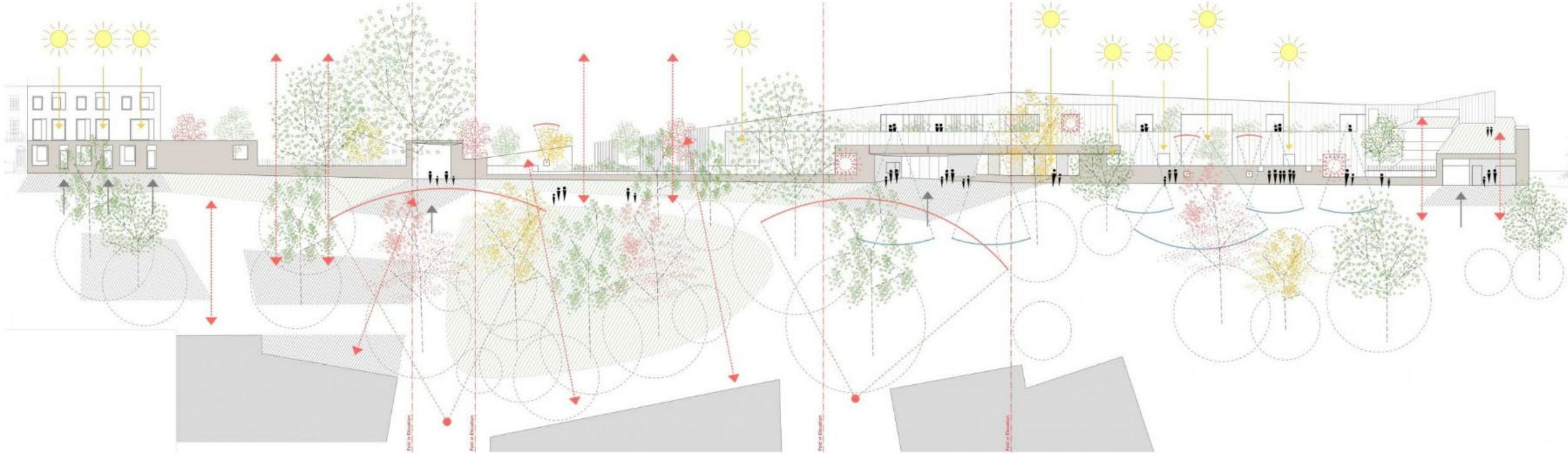
[integrate]



Healthy Schools - a garden school in nature

The first public building which most children use and come to know intimately is their primary school.

Their attitudes to stewardship of **land and landscape** are formed here. *Outdoor Classroom: BB71 Chapter 1*



Edith Neville Primary School, London, Hayhurst & Co

Every School a Garden School leads to Nature Cities

Connecting schools – and nature – to their community will provide nature for communities and develop bolder, more diverse outdoor spaces set to promote both passive and active outdoor activities allowing for social, recreational and physical opportunities.



Merstham Park School, 2022
A biophilic secondary school

Resilient School Programme



Resilient School Programme: Keelham Primary School, sketch scheme.



Resilient School Programme: Byron Primary School, sketch scheme.



Resilient School Programme: Thornton Primary School, sketch scheme.



Resilient School Programme: Holybrook Primary School, sketch scheme.

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QUESTIONS