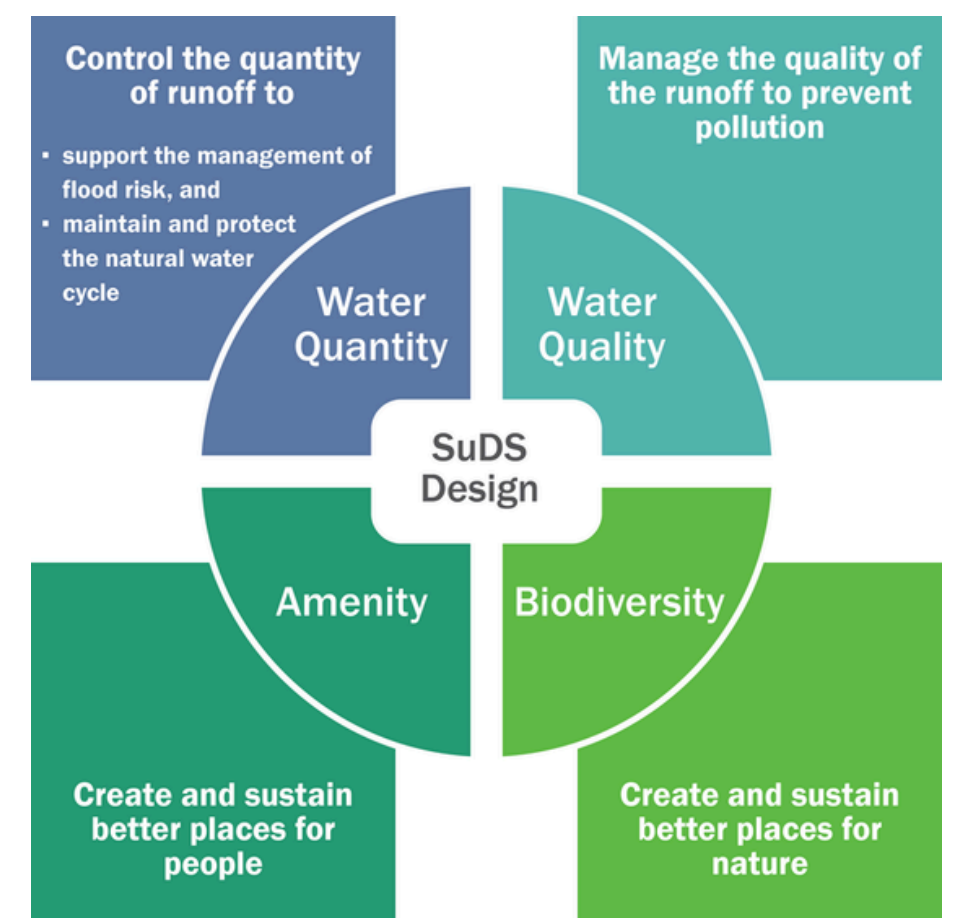


# SuDS at Leiston Primary School

## What are SuDS?

Sustainable Drainage Systems (SuDS) are a type of surface water drainage that provide many benefits. These benefits include capturing surface water to reuse and reduce flood risk, provide amenity and biodiversity benefits to the local environment. They can be provided above and below ground, often uniquely designed for each site.

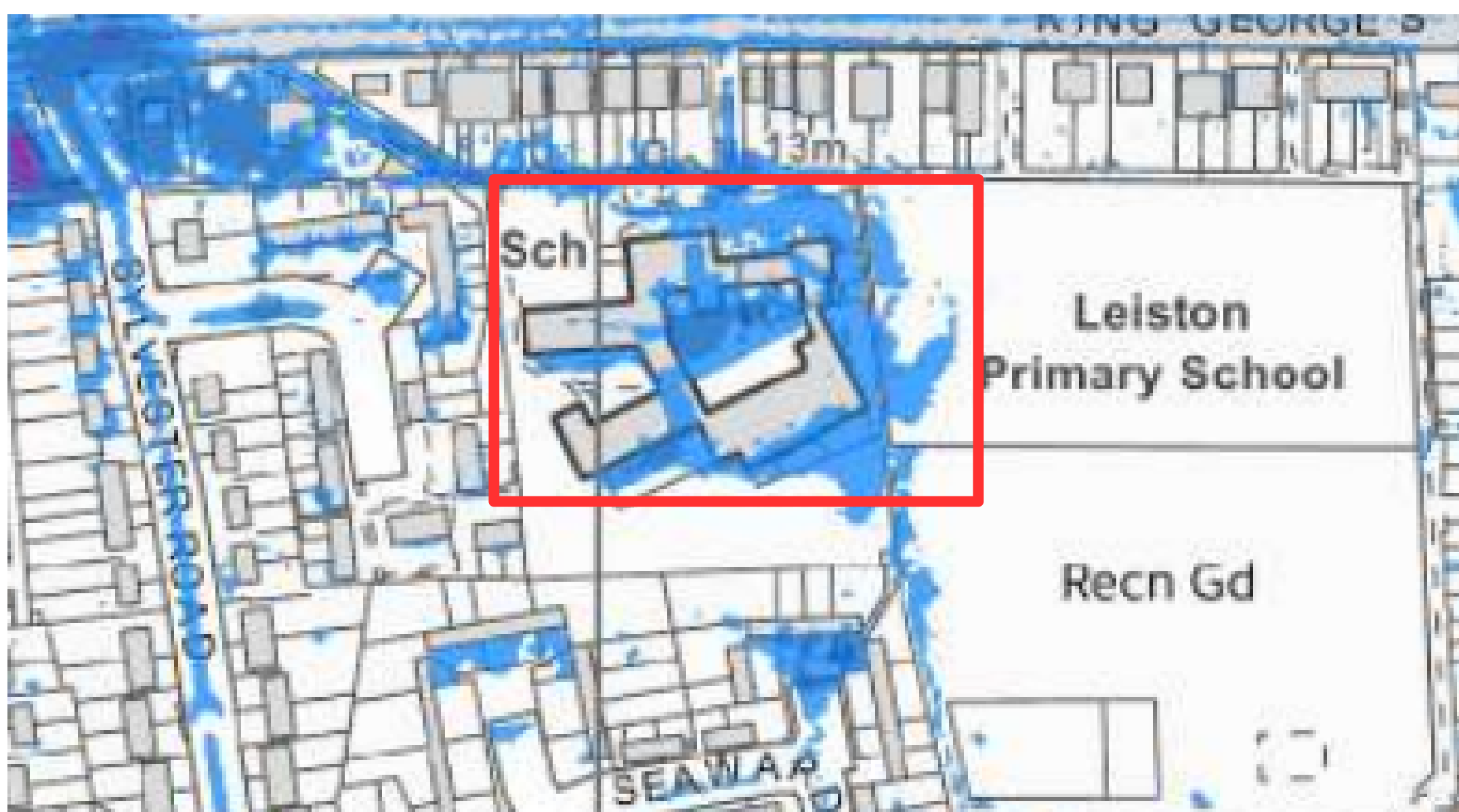
The benefits provided by SuDS are referred to as the 4 pillars of SuDS design and are summarised in the figure on the right.



## Why Leiston primary school?

A Surface Water Management Plan (Flood modelling study) of Leiston was completed in 2017 and identified Leiston Primary School to be at risk from surface water flooding. The school is predicted to be impacted by flooding directly on the site, adjacent to the main building but also has a flow path originating from the site affecting the local community. The flow path from the adjacent community recreation ground contributes to flooding downstream and a flood mitigation feature here would endeavour to mitigate the risk.

The scheme to retrofit SuDS created the potential to provide betterment to the school and wider community from a reduction in flood risk, whilst also providing educational opportunities following their installations.



**Figure:** The figure above shows a surface water flood risk (1% AEP) map. Highlighted in blue, are the main flow paths water takes in this area. As you can see, the school is affected by a major flow path in the courtyard and on the field.



# Benefits to the school and the community:

- Reduces the risk and damage to the school caused by flooding.
- Reduction of downstream flood risk.
- Surface water has been repurposed.
- Support recreational time and educational benefit.
- Awareness of the issue.

## Who have we worked with?

- Anglian Water (AW)
- Leiston primary school
- Illman Young Landscape Architects
- Department for Education
- Greener Growth
- Brooks & Wood Ltd.

## What have we done?

### Courtyard

This area of the school was an area of high flood risk as can be seen on the flood map on the previous page. The courtyard had a hard surfacing (1) which generated a lot of surface water runoff. This has now been replaced with permeable paving (2) over the freely draining soils to encourage infiltration. Included in the courtyard is also concrete plant beds which capture rainwater off the roof surfaces (3 & 4). There are also wooden benches to create an attractive outdoor space where the children can sit during their breaks.





## Retention Basin and Wild Flower Garden

This area is within the flood flow path that affects the school and neighbouring community. Therefore retaining surface water that comes off the grounds adjacent to the school was very vital to addressing the flood risk at the school. A retention basin was excavated (1) in this area to facilitate ponding of surface water during periods of high intensity rainfall and encourage its infiltration. The area around the basin has been planted with some pollinator-friendly flowers to support wildlife like butterflies, bees and also to create a beautiful enclosed amenity space when the trees mature (2 & 3). This area provides the opportunity for children to engage with and learn about nature in small teaching groups.



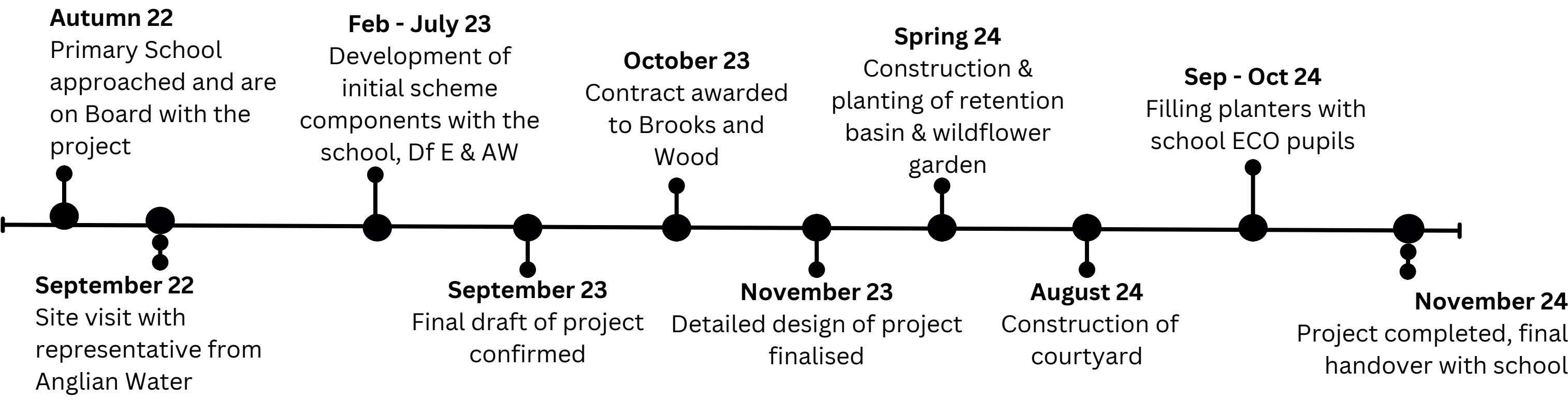
## Mud Kitchen

This is an area that was created to offer an opportunity for the pupils to play with water and mud in a kitchen setting. The water used is harvested off the roof in a rainwater butt as can be seen in the back of the pictures. This stops the rainwater running off the impermeable surfaces outside the classrooms. This area also provides an opportunity for the pupils to be taught about managing water sustainably through actions like rainwater harvesting whilst combating surface flood risk.





# Key Timeline Dates



What has it cost?	Cost (exc. VAT)	Content
Preliminary and Design costs	£8,740	Outline and Detailed designs
Courtyard	£15,524	Concrete planters with plants, Clearance of impermeable paved surface and conversion to permeable paving.
Mud Kitchen	£649	Rainwater harvesting system with water butt and a tap connection to the Mud Kitchen.
Basin	£24,967	Excavation of basin, wildflower planting, tree planting, wooden bridge across the basin
Total	£49,880	