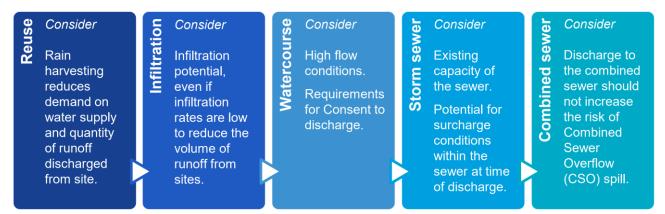
# Outline Guidance Sustainable Drainage Systems (SuDS)

In situations where surface water is being considered for discharge to our network, we require the below hierarchy for surface water to be followed which is reflected in <u>part H3 of the Building Regulations</u>. Whilst reuse does not strictly form part of this hierarchy, we would encourage the consideration of reuse for new developments.

. WINDAMAN

We support the use of SuDS as part of the approach set out in section H3 of the Governments Building Regulations 2010 for the drainage of surface water and supports the 4 pillars approach to SuDS design.



With increasing development and urbanisation, unless we commit to more sustainable systems of drainage, the heavier rainfall we are now all experiencing as a result of climate change will flow out to sea instead of into the ground where it supports the natural water cycle.

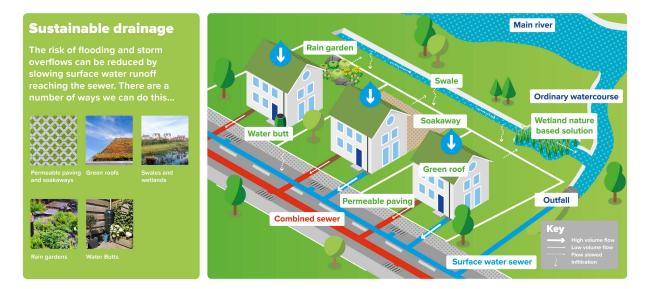
Dry conditions -🔆-	Rainfall 🍖	Heavier rainfall
Domestic and industrial wastewater	Domestic and industrial wastewater (Roof and road runoff)	Domestic and industrial wastewater Roof and road runoff
Sever flow Spill to storm tank Wastewater Vestiment Storm overflow Storm tank Treated water	Source flow Spill to storm tank Spill to storm tank Westewater Westewater Storm overflow Storm tank Treated water	Sever Row Wastewater and runoff combined Spill to storm tank Wastewater treatment works Storm tank Storm water treated water
In dry weather, the flow of wastewater from homes and businesses is treated at wastewater treatment works before being released into rivers and seas.	During rainfall, rainwater runoff from roofs, roads, carparks and other impermeable areas is combined with wastewater from homes and businesses. We hold this extra flow in storm tanks ready to be treated once the high flows from the rain have stopped.	During heavy or prolonged rainfall, the storm tanks fill to capacity. With nowhere else for the water to go, storm overflows are automatically activated to release the excess water into rivers and seas to prevent it from flooding into homes, businesses and the streets.





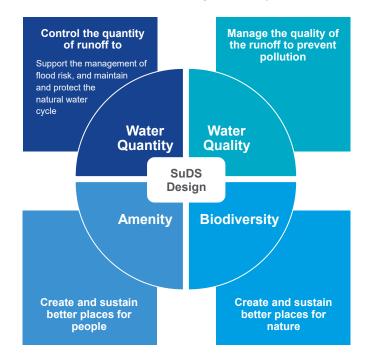
The risk of flooding and storm overflows can also be reduced by slowing surface water runoff reaching the sewer\*. There are a number of ways SuDS can assist with this. The illustration below shows designs incorporating SuDS. SuDS can reduce run off rates from development and return these to the former greenfield levels.





### What is sustainability in the SuDS context?

SuDS are currently only a requirement in legislation for developments greater than 10 dwellings but we encourage all developments to follow the hierarchy so that the most sustainable approach can be taken. The sustainability benefits of SuDS are illustrated below by the **four pillars of Sustainable Drainage Systems**:





### **Principles of Adoption**

SuDS will be considered for adoption where the following criteria are met:

- Compliance with Appendix C of <u>Design and Construction Guidance</u> for new surface water drainage systems is demonstrated.
- Construction of SuDS conforms to requirements set out in CIRIA document 'The SuDS Manual C753'.
- SuDS are part of a continuous sewer system -not an isolated end of pipe SuDS component.
- It is constructed for the drainage of buildings and yards appurtenant to buildings.
- It has a channel (a depression between banks or ridges with a definite boundary).
- It conveys and returns flows to a sewer or to a surface water body or to groundwater; and,
- It has an effective and maintainable point of discharge, which must have lawful authority to discharge into a watercourse or other water body or onto or into land.
- It is safe and practical to maintain.

## Which SuDS components could be adopted if designed and constructed to the code?

The following components are examples of SuDS that we include for adoption through us:

- Swales
- Rills
- Bio-retention systems
- Ponds and Wetlands
- Basins (normally dry)

### Examples of SuDS not considered for Adoption

The following components are examples of SuDS that we exclude for adoption through us:

- Watercourses as defined in law (these include rivers, streams and can include some ditches)
- Components built primarily for the drainage of surface water from streets or for the drainage of land

### **Useful Information**

For further information on SuDS and how they can be incorporated onto your development site, please refer to the standards for their design, construction, maintenance and adoption in the <u>Design and Construction</u> <u>Guidance</u>, CIRIA's <u>guidance on the construction of SuDS</u>, the <u>CIRIA SuDS manual</u> and the <u>Susdrain</u> website.

