

Get inspired!  
**SCHOOL  
RAINGARDENS**



Please only use this leaflet as inspiration for your raingarden project, and not as building instructions.

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## What happens to the water in your school?

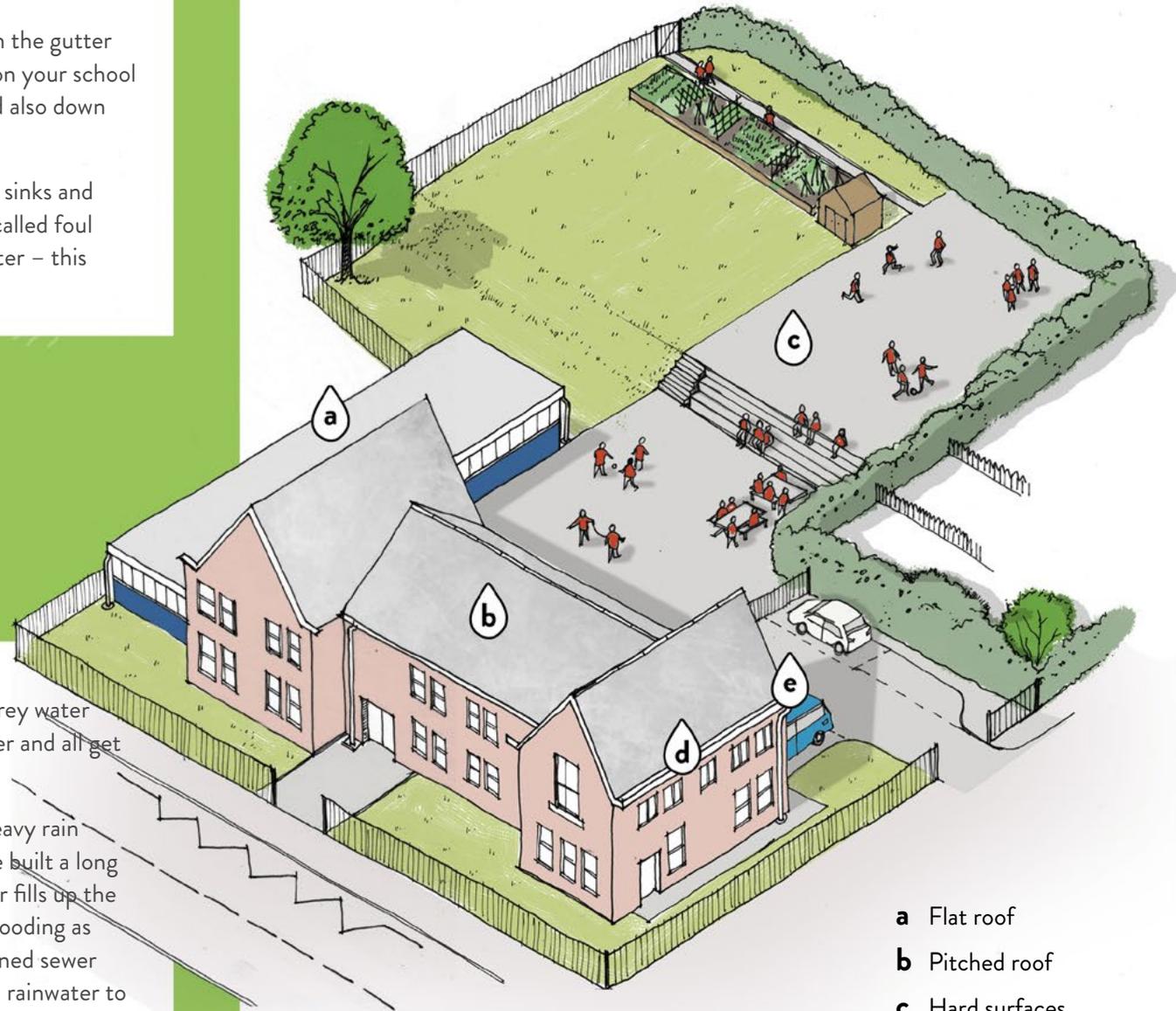
Rainwater which falls on the roof of your school is collected in the gutter and drainpipes take it down into the sewer. Rainwater falling on your school playgrounds and car park flows towards gutters and drains and also down into the sewer.

Other pipes also take dirty water from the school bathrooms, sinks and kitchens into the same sewer. Dirty water from the toilets is called foul water, the water from the sinks and kitchens is called grey water – this water is not as dirty as the foul water from the toilets.

We often have combined sewers which mean the rainwater, grey water and foul water all go to the same sewer pipe, they mix together and all get treated at a sewage works.

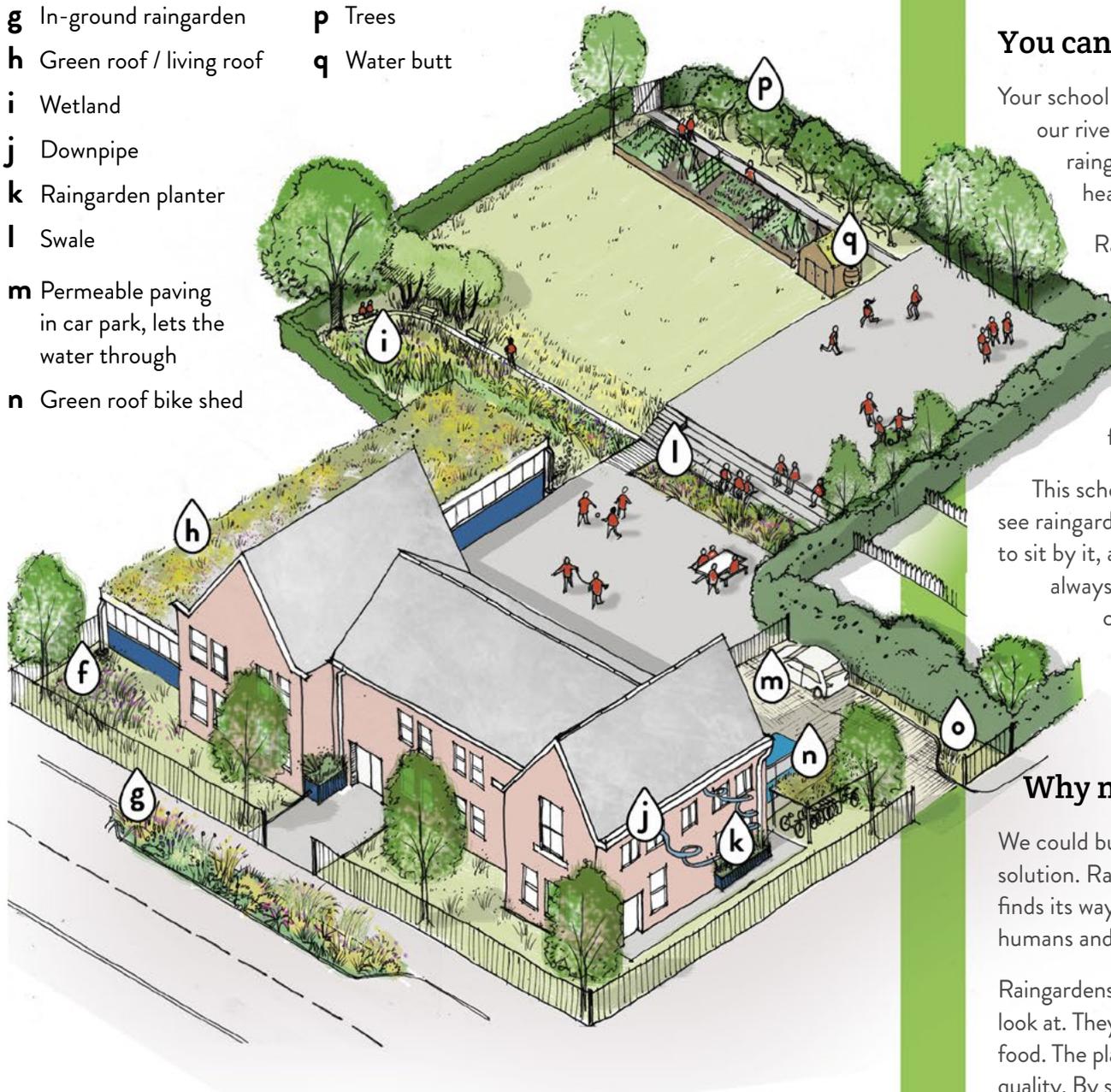
Our climate is changing, and we are having more and more heavy rain showers where a lot of rain falls very quickly. Our sewers were built a long time ago and are too small. When it rains heavily the rainwater fills up the sewer, and there is nowhere for the water to go. This causes flooding as the drains are full. It also causes overflow valves (called combined sewer overflows) to open and a mixture of foul water, greywater and rainwater to go into our rivers causing pollution.

## But what can you do about it?



- a Flat roof
- b Pitched roof
- c Hard surfaces which do not let water through
- d Gutter
- e Downpipe

- f** Bog raingarden
- g** In-ground raingarden
- h** Green roof / living roof
- i** Wetland
- j** Downpipe
- k** Raingarden planter
- l** Swale
- m** Permeable paving in car park, lets the water through
- n** Green roof bike shed
- o** In-ground raingarden
- p** Trees
- q** Water butt



## You can help by building raingardens!

Your school can help reduce flooding and stop dirty water overflowing into our rivers by slowing down rainwater on its way to the sewer by using raingardens. You can do this by building raingardens. You may also hear raingardens being called sustainable drainage or SuDS.

Raingardens use plants, soils and the landscape to hold onto rainwater and then slowly release it. They also help reduce the amount of water which gets to the sewer. Some water is taken up by the plants, some finds its way back down into the ground, and some water will evaporate. Raingardens also help clean the water, which may have picked up dirt from the roofs and hard surfaces.

This school has used raingardens to slow down the rainwater. You can see raingarden planters coming off wiggly drainpipes, a swale with places to sit by it, a small wetland, and lots of different green roofs. It might not always be possible to do everything, but even small changes help. You could find out more information about raingardens, write down or draw your ideas, and talk to your teachers or Eco Council about your suggestions.

## Why not just build bigger sewers?

We could build bigger sewers, but this is expensive and may not be the best solution. Rainwater doesn't need to be sent to a sewage works before it finds its way back to the river. Raingardens also give other benefits to us humans and to wildlife.

Raingardens can provide us with beautiful places to sit, walk through and look at. They provide a space for nature, giving insects and birds a home and food. The plants which grow in raingardens help improve air quality and water quality. By slowing down the rainwater, and stopping it getting to the sewers so quickly, raingardens help to reduce flooding and protect our rivers.

## Raingarden glossary

Use the glossary to find out more about these raingarden features



1. **Bog garden** – a shallow dip designed to stay wet and boggy which you can plant with bog loving plants. Sometimes people create bog gardens at the side of ponds. You can use a punctured pond liner to keep some of the water in the dip, therefore making it boggy.

2. **Living roof** – a bit like a raingarden in the sky! Similar to a green roof, living roofs may have materials such as crushed brick or poor soils spread on them. Plants that like these conditions are planted or allowed to blow in. They may have piles of stones or logs for insects to live under. The materials and plants slow the water down and provide habitat and space for nature. A **green roof** is similar but uses different soils and planting - you could choose either type.
3. **Downpipe** – the pipe which takes the rainwater off the roof from the gutters and into the drain.
4. **Green roof** – planting on top of a roof, like a raingarden in the sky! The plants and material they are growing in slow the water down so that it doesn't go rushing down the drainpipe. Plants are chosen carefully so they don't need too much looking after. A **living roof** is similar but uses different soil material.
5. **In-ground raingarden** – a shallow depression (a dip) which can hold rainwater, and then let it sink back into the ground, or overflow into another raingarden. These can be planted with carefully chosen plants. These are also called 'bio-retention' areas.
6. **Raingarden planter** – a planter which catches rainwater coming from the downpipe. The water flows through the plants and soil in the planter, then down through different layers of gravel, before coming out of the planter. Free draining soil is used so the plants don't get too soggy.
7. **Swale** – a wide, shallow ditch, planted with plants, which collects rainwater runoff. The water flows down the swale and out at the lower end. Sometimes swales have small dams in them which help slow the water. Sometimes the dams are designed to be walked across, and you may also see small bridges across swales.
8. **Trees** - these are an important part of green infrastructure and also intercept rainfall.
9. **Water butt** – a big container which holds and stores the rainwater coming down your drainpipe. This water can be used for things like watering the garden or washing your car. These can also be called a rain barrel
10. **Wetland** – land which is often found in the flood zone at the edges of water bodies. Wetlands can also be built. They have areas of marsh, which stay boggy and wet. Wetlands can provide habitat for many different birds.