



Diamond Wood & Shaw
Limited

SuDS Maintenance Strategy

Wood Street, Hinckley

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Introduction

This plan has been written to address the long term maintenance of the SuDS features that have been employed for this development. Many types of SuDS features are highly visible and form an integral part of the development, not just as part of the functional drainage system but also as part of the biodiversity and amenity value provided for the site. Maintenance of these features is vital to ensure their continued use and to keep the development at the same level of visual amenity. It is therefore important to understand the maintenance requirements of the system and who is responsible for delivering the maintenance throughout the development's life.

The purpose of this plan is to:

1. Give guidance on appropriate maintenance actions and timings to meet the system needs.
2. Identify the SuDS features of the development.
3. The people responsible for the management of the maintenance.
4. Any restrictions or other important factors to consider during the maintenance operations.

There are a number of pressures on a SuDS system's function: visual amenity, ecological value, etc. and not only are these pressures always on the system, they can also change over time as the development changes or as legislation changes; therefore the maintenance plan should be reviewed at regular intervals to ensure it is fit for purpose. Changes should only be made where appropriate for the system or when it is necessary.

All parties that come into contact with the system, whether it be the residents or those who are responsible for the maintenance should understand the system and the individual parts thereof to ensure that no action is taken by any party that could damage any aspect of the system.

Identification of SuDS features

This report needs to give a clear identification of the SuDS features that are being used within the drainage system. This is important as this designation identifies the parts of the system which are SuDS features and then clearly lays out which party is responsible for them and what is required to maintain them, as a minimum.

The parts of the system that are considered SuDS features as part of the drainage system are:

1. Permeable paving – permeable paving is located throughout the development.

Maintenance of the drainage system is holistic and there are also other parts of the drainage system that will require maintenance but are not considered a SuDS feature, they are:

1. Pipe system
2. Manholes and inspection chambers
3. Attenuation tank

Responsibilities

Responsibility of the maintenance will depend on whether the SuDS feature is to be adopted or is to remain in private ownership. There are a number of potential owners of the responsibility which can include land owners, water authorities, management companies, etc.

It is important to understand who is responsible for the maintenance of a system to insure that important maintenance actions are not missed and ultimately, the system continues to operate and does not fail, leading to flood.

In this case, the system is completely within the private ownership and therefore themselves or appointed management company will carry out the maintenance of the SuDS features and drainage system.

Maintenance matrix

The table below shows the parts of the system that are SuDS features, it then identifies the maintenance actions that need to occur.

Component of the system	Type of Maintenance	Maintenance action	Frequency
Permeable paving	Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface).	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment.
		Stabilise and mow contributing and adjacent areas.	As required.
		Removal of weeds or management using glyphosate applied directly onto the weeds by an applicator rather than spraying.	As required – once per year on less frequently used pavements.
	Occasional maintenance	Remediate any landscaping which, through vegetation maintenance or soil	As required.

	Remedial Actions	slip, has been raised to within 50 mm of the level of the paving. Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material.	As required.
	Monitoring	Rehabilitation of surface and upper substructure by remedial sweeping.	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging.
		Initial inspection.	Monthly for three months after installation.
		Inspect for evidence of poor operation and/or weed growth – if required, take remedial action.	Three-monthly, 48 h after large storms in first six months.
		Inspect silt accumulation rates and establish appropriate brushing frequencies.	Annually.
Attenuation Tank, chambers and Pipe System	Regular maintenance	Monitor inspection chambers.	Annually.
		Inspect and identify any areas that areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then annually.
	Remedial Actions	Remove debris from the catchment surface (where it may cause risks to performance) Repair/rehabilitate inlets, outlets and overflows.	Monthly. As required.

	Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.	Annually.
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() indicate actions that may only be required rather than will definitely be required

As can be seen in the table there are three primary types of maintenance, they are:

1. Regular maintenance
2. Occasional maintenance
3. Remedial maintenance

Regular maintenance needs to be carried out monthly or after each rainfall event during the first year of use and then the maintenance regime can fall into a regular pattern, say every 3 months with greater emphasis on autumn when leaf fall occurs. Occasional maintenance needs to occur with less frequency than the regular maintenance but still needs to follow a regime to ensure the feature operates as intended and with efficiency. Remedial maintenance is only required when need, such as when damage has been caused to the drainage system.

As general notes on the maintenance actions:

1. Grass cutting activities should be completed in a manner that is sympathetic to particular periods of the year, such as bird breeding season.
2. If mulch is to be used, do not use bark mulch as it floats and can block oxygenation of the water along with inlets and outlets.

Further information on the types of maintenance and the maintenance actions themselves can be found in the CIRIA report C753 – The SuDS Manual in chapter 32 – Operation and maintenance which is freely available for download from www.ciria.org.

Pollution incidents

There is always a risk of pollution incidents with any system. However, through the design of the system designers create a system to minimise the risk of incidents. With the move towards SuDS systems there is also a need to clean the flows through the system, this can also be done with hard engineering such as using an interceptor, but SuDS features are designed to mimic the natural process by slowing the flows and using elements of filtration to clean the flows.

The surface water system has 3 elements that will clean the flows through the system:

- All gullies/linear drains have a traps which will minimise the silt ingress into the system and will also limit the hydrocarbons that can enter the system.
- Water hitting the permeable paving surfaces enters the system through the surface of the paving before it is discharged onto a pond, the sub-base of the permeable paving slows the flow of the water and forces the heavier pollution elements to drop out of the water “sticking” to the stone as it flows through.

As you can see the system has been designed to have multiple cleaning processes to clean the water as much as possible before it is discharged into the public sewer.

With careful management of the maintenance of the system the risk of pollution incidents is minimised as much as possible.