

Maintaining SuDS Schemes

This online resource paper provides information about the practical aspects of maintaining sustainable drainage systems

Overview and Purpose

Ongoing management and maintenance of SuDS is an important consideration for the success of a scheme. Efficient SuDS schemes are able to evolve and improve over time. It is recognised that long-term SuDS management can be a new experience for key stakeholders and that experience in this area is continuing to grow.

Like all drainage systems, it is expected that SuDS components are inspected and maintained. The appropriate responsible party to maintain the SuDS components is evaluated on a site-to-site basis. This ensures efficient operation and prevents failure. Generally, SuDS can be managed using landscape maintenance techniques.

Key Points to Consider

Maintenance can be considered at all stages of the planning, design and construction process. At the planning stage, maintenance focuses on who will be doing it and if they can do it effectively.

- The landowner is the party responsible for ensuring that SuDS components within their land are maintained over the lifetime of the development even if it serves other properties, unless the SuDS components have been adopted;
- Adoption is when an organisation agrees to take responsibility for the future management and maintenance of the SuDS components. There are examples in England where local authorities, water companies, private companies and other organisations have adopted SuDS components;
- Typically, adoption calls for a payment and a legal agreement, possibly backed up by the deposit of a repayable performance bond. The adopting organisation will generally wish to approve the design before construction;
- In many cases, the property freehold (outright ownership of property and land) is not transferred. The adopter will ensure they have the right to access and maintain the adopted asset. Some SuDS components, particularly surface SuDS components, may be adopted and the freehold of the land on which they lie is also transferred into the ownership of the same (or a different) authority.

SuDS design considerations include providing source control (managing water runoff as close as possible to where it falls as rain), ease of access, health and safety, and potential cost of maintaining features. During, and at the end of construction, inspection is necessary to ensure the system has been constructed correctly and will not require remedial works.

The maintenance requirements of well-designed and constructed SuDS can be quite straightforward, and it is generally possible to accurately estimate on-going maintenance costs. Well-designed and constructed SuDS that incorporate source control are generally easy to maintain, regardless of whether they are landscape or hard engineering solutions.

Important factors to consider when designing SuDS to minimise future maintenance and management issues are:

- How the SuDS will be maintained and by whom;
- Selection of an appropriate range of SuDS for the site or project area;
- Effective location, design and construction.

It is best practice that SuDS construction is supervised and inspected on completion by one or more of the relevant bodies such as a local authority, water company, private company and other organisation, if owners and SuDS approval bodies are to avoid taking on liabilities. This will help to ensure that the specified materials are being used, and that they are being placed correctly. Incorrect materials or installation will adversely affect the performance, maintenance costs and ultimately the serviceable life of SuDS.

Bioretention systems are an example of a source control solution that are a combination of engineering and landscaping. Routine maintenance of engineered source control systems involves primarily ensuring that silt does not accumulate to excessive levels which compromises the feature's performance.

The Practical Implications for Planning Officers and Applicants

Maintenance of SuDS features can be divided into landscape and drainage requirements. Regarding landscaping, a swale needs strimming twice per year, with any shrubs needing pruning when they have reached a certain size. A bio-retention pond or rain garden need grasses trimming, and any trees or shrubs require inspecting. A dry attenuation basin needs the same landscape maintenance as any other soft landscaped area. Any fencing requires to be checked annually to ensure measures are adhered to.

All SuDS features require drainage maintenance – inlets checked and if necessary, cleared. Outlets and weirs require visual inspection. Grates and forebays need to be swept and cleaned.

This level of maintenance is no different to any drainage system, where maintenance is vital if these elements are to work efficiently during a storm event. For below-ground SuDS such as permeable paving and modular geo-cellular storage, the manufacturer or designer can provide maintenance advice. This may include routine and long-term actions that can be incorporated into a maintenance plan.

The level of inspection and maintenance varies depending on the type of SuDS component and scheme, the land use, types of plants, as well as biodiversity and amenity requirements. Further information on maintenance is found in The SuDS Manual (CIRIA publication C753).

The bullet points below provide a breakdown of typical maintenance requirements, their frequency, and usual tasks. This can include an overview of the design concepts and a maintenance schedule for the scheme to ensure that it continues to function as intended.

- Routine / regular maintenance (monthly): litter picking, grass cutting, inspection of inlets, outlets and control structures;
- Occasional maintenance (annually): silt control around components, vegetation management around components, suction sweeping of permeable paving, silt removal from catchpits, soakaways and cellular storage;
- Remedial maintenance (as required): inlet/outlet repair, erosion repairs, reinstatement of edgings, reinstatement following pollution, removal of silt build up.

Relevant Craven Local plan policies and guidance

- Policies **ENV4: Biodiversity** **ENV5: Green Infrastructure**, **ENV6: Flood Risk** and **ENV8: Water Resources, Water Quality and Groundwater, Green Infrastructure & Biodiversity SPD** and **Flood Risk & Water Management SPD**

March 2023. This webpage provides general information about relevant planning topics and we hope you find it helpful. Please be aware that it is not a statement of Council policy and does not provide formal policy guidance. For those things, please refer to the Craven Local Plan and supplementary planning documents.