

PLOT 5100  
HATFIELD BUSINESS PARK

## SuDS Maintenance Plan

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# Sustainable Drainage Management Plan for Plot 5100 Hatfield Business Park

## An introduction to sustainable drainage systems or SuDS

SuDS are a new environmentally friendly approach to managing rainfall that use aim to:

- Control the flow, volume and frequency of water leaving a development area
- Prevent pollution by intercepting silt and cleaning runoff from hard surfaces
- Provide attractive surroundings for the community

## SuDS Management

The proposed SuDS measures, have been designed with easy maintenance in mind. Maintenance will generally fall into one of the three following categories:

- **Regular day to day care** - litter collection, grass cutting and checking the inlets and outlets where water enters or leaves a SuDS feature.
- **Occasional tasks** - managing vegetation and removing any silt that builds up in the SuDS features.
- **Remedial work** - repairing damage where necessary.

## SuDS Maintenance – Summary

	<b>REGULAR MAINTENANCE</b>	<b>Frequency</b>	<b>Unit Rate</b>	<b>Total</b>
1	LITTER MANAGEMENT			
1.1	Pick up all litter in SuDS and Landscape areas and remove from site.	As required		
2	GRASS MAINTENANCE – all cutting to be removed			
2.1	Mow all grass verges, paths and amenity at 35-50mm with 75mm max. Leaving grass insitu	As required		
3	HARD SURFACES			
3.1	Sweep all paving regularly. Sweep and suction brush permeable paving in Autumn after leaf fall.	As required		
	<b>OCCASIONAL TASKS</b>			
5	SILT MANAGEMENT			
5.1	Remove silt collected in gully pots, channel sumps and catchpits and dispose from site to licenced tip. Acco drains are lifted and cleaned.	2 visits annually		
5.2	Storm drains are checked annually after leaf fall and if necessary are jetted out.	Annually		
6	NATIVE PLANTING			
6.1	Remove lower branches where necessary to ensure good ground cover to protect soil profile from erosion.	As required		
	<b>REMEDIAL WORK</b>			
7	Inspect SuDS system regularly to check for damage or failure  Undertake remedial work as required	As required		

## **SuDS Features:**

**SuDS techniques** include control structures to manage discharge of water from the site into existing public sewers. It is proposed that surface water discharge is to be limited to the rate as indicated on the latest site drainage layout. Refer to drawing 12690-104.

**Permeable surfaces:** permeable block paving, porous Asphalt, gravel or free draining soils that allow rain to percolate through the surface into underlying drainage layers, must be protected from silt, sand, compost, mulch, etc.

**Inspection Chambers** catchpit manholes and rodding eyes are used on bends or where pipes meet or change direction. By implementing inspection chambers, it allows cleaning of the system when necessary.

**SuDS flow controls** are usually small vortex control devices located in control chambers, slots or V notches in weir outfalls. Vortex control devices are accessible for maintenance via the manhole cover to the control chamber.

**Flood routes (exceedance routes)** allow water volumes exceeding the capacity of the SUDS system to escape to an allocated area of the site, without causing damage to property. This route must be clear of obstructions at all times.

**Cellular Tanks** are used to manage and control surface runoff and used to store surface water under the ground before discharging into the public network via the vortex control chamber.

# Sustainable Drainage Maintenance Specification

## 1.0 GENERAL REQUIREMENTS

Maintenance activities comprise <ul style="list-style-type: none"><li>• Regular Maintenance</li><li>• Occasional Tasks</li><li>• Remedial Work</li></ul>	As required
Generally – Litter Collect all litter or other debris and remove from site at each site visit	As required

- **Avoid** use of weed killers and pesticides to prevent chemical pollution
- **Avoid** de-icing agents wherever possible to allow bio-remediation of pollutants in permeable surfaces.
- **Protect** all permeable, porous and infiltration surfaces from silt, sand, mulch and other fine particles.

### Exclusions:

- Maintenance of rainwater harvesting chambers, pumps, etc.

## 2.0 PERMEABLE SURFACES

- **Permeable surfaces** including permeable block paving, porous asphalt, gravel or free draining soils that allow rain to percolate through the surface into underlying drainage layers. They must be protected from silt, sand, compost, mulch, etc. Permeable block paving can be cleaned by suction brushing.

<b>PERMEABLE AND POROUSE SURFACES</b>	
<b>Regular Maintenance</b>	<b>Frequently</b>
<b>Cleaning</b> Brush regularly and remove sweepings from all hard surfaces	As required
<b>Occasional Tasks</b>	<b>Frequently</b>
<b>Permeable Pavements</b> Brush and vacuum surface once a year to prevent silt blockage and enhance life	As required
<b>Remedial Work</b>	<b>Frequency</b>
Monitor effectiveness of permeable pavement and when water does not infiltrate immediately advise Client of possible need for reinstatement of top layers of specialist cleaning.  Recent experience suggest jet washing and suction cleaning will substantially reinstate pavement to 90% efficiency.	As required

- The maintenance of permeable surfaces will be undertaken by H.R. Owen.

## 3.0 Cellular Storage

<b>Cellular Storage</b>	
<b>Regular Maintenance</b>	<b>Frequency</b>
Inspect inlets, outlets and control structures and remove obstructions and silt as necessary.	Monthly
Remove cover and inspect ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt.  Undertake inspection after leaf fall in autumn	Annually
<b>Occasional Maintenance</b>	
Remove silt from catchpits and cellular storage	As necessary
<b>Remedial work</b>	<b>Frequency</b>
Repair inlet/outlet if necessary, removal of silt build up	As required
Repair physical damage if necessary.	As required

- The maintenance of the storage tank will be undertaken by H.R. Owen.

#### 4.0 INLETS, OUTLETS, CONTROLS, AND INSPECTION CHAMBERS

- **Inlets and outlets structures** may be surface structures or conveyance pipes with guards or headwalls. They must be free from obstruction at all times.
- **SuDS flow control structures** can be protected orifices, slots weirs or other controls at or near the surface to be accessible and easy to maintain. They may be in baskets, in small chambers or in the open.
- **Inspection Chambers** and rodding eyes are used on bends or where pipes come together and allow cleaning of the system if necessary. They should be designed out of the system where possible.

<b>INLETS, OUTLETS, CONTROLS AND INSPECTION CHAMBERS</b>	
<b>Regular Maintenance</b>	<b>Frequency</b>
<b>Inlets, outlets and surface control structures</b>	
Inspection surface structures removing obstructions and silt as necessary. Check there is no physical damage.	Annually
Strim vegetation 1m min. surround to structures and keep hard aprons free from silt and debris.	Annually
<b>Inspection chambers and below ground control chambers</b>	
Remove cover and inspect ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and slit.	Annually
Undertake inspection after leaf fall in autumn	
<b>Occasional Maintenance</b>	
Check topsoil levels are 20mm above edges of baskets and chambers to avoid mower damage.	As required
<b>Remedial Work</b>	
Unpack stone in basket features and unblock or repair and repack stone as design detail as necessary.	As required
Repair physical damage if necessary.	As required

- Maintenance to be carried out by H.R. Owen.

## 5.0 OVERFLOWS AND FLOOD ROUTES

- **Overflows** are overland across weirs, through gratings or within chambers and must be kept clear at all times to protect areas from flooding. They allow onward flow when part of the SuDS system is blocked.
- **Flood routes (exceedance routes)** allow water volumes that exceed the capacity of the SuDS system to pass through or round the site without causing damage to property. These routes must be clear of obstructions at all times.

<b>OVERLOWS AND FLOOD ROUTS</b>	
<b>Regular Maintenance</b>	<b>Frequency</b>
<b>Overflows.</b> Jet pipes leading from overflow structures annually and check by running water through the overflow. Check free flow at next SuDS feature – inlet to basin or chamber.	As required
<b>Overflows.</b> Remove any accumulated grass cuttings or other debris on top of grass weirs or stone filled basket overflows.	As required
<b>Flood Routes.</b> Make visual inspection. Check route is not blocked by new fences, walls, soil or other rubbish. Remove as necessary	As required
<b>Remedial</b>	<b>Frequency</b>
<b>Overflows.</b> If overflow is not clear then dismantle structure and reassemble to design detail	As required

- To be maintained by H.R. Owen.

## **6.0 SPILLAGE – EMERGENCY ACTION**

Most spillages on development sites are of compounds that do not pose a serious risk to the environment if they enter the drainage in a slow and controlled manner with time available for natural breakdown in a treatment system. Therefore small spillages of oil, milk or other known organic substances should be removed where possible using soak mats as recommended by the Environment Agency with residual spillage allowed to bio-remediate in the drainage system.

In the event of a serious spillage, either by volume or of unknown or toxic compounds, then isolate the spillage with soil, turf or fabric and block outlet pipes from chamber(s) downstream of the spillage with a bung(s). (A bung for blocking pipes may be made by wrapping soil or turf in a plastic sheet or close woven fabric.)

Contact the Environment Agency immediately. To be maintained by HR Owen.

## **7.0 QUERIES REGARDING A DESIGN FEATURE**

In the event of a concern or failure of a SuDS design feature contact Baynham Meikle Partnership Ltd.

8 Meadow Road, Edgbaston, Birmingham B17 8BU

Tel: (0121) 434 4100

Email [admin@bm-p.co.uk](mailto:admin@bm-p.co.uk)

## **8.0 QUERIES REGARDING MAINTENANCE**

Responsible person(s) – Lisa Wilsher, Property and Facilities Manager, H.R. Owen PLC

Contact: 07713073220

Email: [Lisa.Wilsher@hrowen.co.uk](mailto:Lisa.Wilsher@hrowen.co.uk)