



Turing House,
5 Archway
Manchester
M15 5RL

SuDS MAINTENANCE PLAN

For

Proposed Residential Development

At

Wuerdle Street, Rochdale

Project: J8426

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The Owner's manual

This will include the following:

- This document.
- Location of all SuDS component on site (drainage and suds drawings).
- Operation and maintenance schedule (below) and a maintenance record.
- Emergency Plan (below)
- Explanation of the consequences of not carrying out the maintenance that is specified (below)
- Identification of areas where certain activities are prohibited for example, stockpiling materials on pervious surfaces (below).

General Requirements

Collection of all litter and debris from all areas is to be undertaken on a monthly basis by the property management company.

Financial Management

It is proposed that all SuDS facilities will be managed and maintained by the property management company. Specialist maintenance will be carried out by an appointed specialist engineer retained on a fixed contract (of at least 1 year).

Permeable Paved Areas

Permeable block paving is porous to allow rain to percolate through the surface into the underlying drainage layers. It is important to ensure the block paving is maintained regularly to ensure silt, sand, compost, mulch etc does not block the voids leading to reduced permeability.

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Brush surface regularly and remove sweepings from hard surfaces.	Monthly
	Brush and suction sweep surface or jet wash and suction sweep surface particularly in autumn after leaf fall	Annually
	Mow grass edges to paving at 35-50mm and remove weed and leaves	As required
	Jetting and suction where silt has accumulated in joints and voids. Replace grit and vibrate surface to lock permeable pavements.	As required
Remedial Actions	Where sinking or surface damage occurs, uplift the block, remove grit bedding layer, geotextile if required and reinstate to design profile	As required
Monitoring	Visual inspections to check for damaged pavements and build-up of silt.	Monthly in the first year, annually thereafter.

Inlet Structures and Inspection Chambers

Inlet structures such as rain water down pipes, road gullies and channel drawings. They should be free from obstruction at all times to allow free flow through SuDS. Inspection chambers and rodding eyes are used on bends or where pipes come together. They allow access and cleaning to the system if necessary.

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Inspect rainwater down pipes and Aco drains, removing obstructions and silt as necessary. Check there is no physical damage.	Monthly
	Strim vegetation 1m min surround to structure and keep area free from silt and debris	Monthly
	Remove inspection chamber cover and inspect. Water should be free flowing and the exist route is unobstructed. Remove debris and silt. Undertake inspection after leaf fall in Autumn.	Annually
	Check topsoil levels are 20mm above edges of chambers to avoid mower damage.	As necessary
Remedial Actions	Repair physical damage if possible or replace if required.	As required / annual
Monitoring	Visual inspections to check for damage as required	As required

Below Ground Drainage Pipes

Below ground drainage pipes convey water to the SuDS system. They should be free from obstruction at all times to allow free flow.

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If require take remedial action.	Monthly for the first 3 months, then annually.
	Remove debris from the catchment surface (where it may cause risks to performance).	Monthly
	Remove sediment from pre-treatment inlet structure and inspection chambers.	Annually or as required
	Maintain vegetation within the vicinity of the below ground drainage pipes and tanks to avoid damage.	Monthly or as required
Remedial Actions	Repair physical damage if possible or replace if required.	As required / annual
Monitoring	Inspect all inlets, outlets and vents to ensure that they are in good condition and operating as designed.	Annually
	Survey inside of pipe runs for sediment build up and remove if necessary.	Every 5 years or as required.

Rain Garden

Rain Garden retains surface water runoff from hardstanding area to reduce discharge into the surface water drainage network and provide level of filtration to improve water quality.

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Inspect the outlet to ensure clear from blockages. Remove weeds and debris from the surface.	Monthly Monthly or as required
Remedial Actions	If build-up found to be blocked but pipework is clear, remove and retain plants and layers of build-up separately. If 'rain garden soil' is free draining then replace permeable membrane and reinstate over.	As required
Monitoring	Carry out visual survey during rainfall events to ensure build-up is free draining.	Bi-annually

Cellular Attenuation

Storage is provided within the SuDS system by cellular units. They should be free from obstruction at all times to allow free flow and maximum storage capacity.

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Remove debris from the catchment surface (where it may cause risks to performance). Inspect the tank inlet and outlet for debris and blockages. Remove sediment from silt traps and sumps.	Monthly for the first 3 months, then every 6 months. Bi-Annually
Remedial Actions	Repair physical damage if possible or replace if required.	As required / annual
Monitoring	Inspect all inlets, outlets and vents to ensure that they are in good condition and operating as designed. Survey inside of tank for sediment build up and remove if necessary.	Annually Every 5 years or as required.

Packaged Pumping Station

Surface water is pumped from the attenuation tank into the surface water sewer. Inlets and outlets should be free from debris to maintain free flow in and out of the unit.

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Inspect the pump inlet and outlet for debris and blockages. Refer to the manufacturer's literature for servicing requirements.	Monthly for the first 3 months, then every 6 months. As specified by the manufacturer.
Remedial Actions	Report to manufacturer prior to carrying out any remedial works as specialist contractor may be required to carry out repairs or replacement of parts/unit.	As required / annual.
Monitoring	Pumping station to be fitted with alarms to notify management team of pump failure. Specialist contractor to survey and provide report of pump status.	As required. Every 5 years or as required.

Design Life

The design life of the development is likely to exceed the design life of each of the SUDs components listed above. During the routine inspections of any drainage components, it may become apparent that they have reached the end of their functional lifetime. In the interest of sustainability repairs should be the first-choice solution where possible. If this is not the case then it may be necessary for the property owners (if on their property) or the management company to undertake complete replacement of the component in question.

Emergency Plan

Key indicators to prevent flooding;

1. Manholes over flowing
2. Vent pipe overflowing
3. Gullies overflowing or water taking a long time to disperse
4. Aco channels overflowing or water taking a long time to disperse
5. Any other unusual visual items not normally seen such as waterlogged ground

In the event of the above occurring, action is required to be undertaken as outlined below;

1. Check for obvious blockages in area where flooding is occurring (blocked gully's / drains / flow control units etc).
2. If there is nothing obvious as to why there is a blockage, call the statutory wastewater provider – United Utilities to make them aware and report the problem on 0345 672 3723
3. Call a suitable drain inspection company such as 'Lanes for Drains' to survey and possibly jet any blockages. Local depot contact number – 0161 788 2222 and inform them of the problems.

Ensure that in the event of the above, the operation, maintenance and emergency plans as well as the drainage drawings for the development are available to the contractors.

Spillage – Emergency action

Most spillages on a development are of compounds that do not pose a serious risk to the environment if they enter the drainage system in a slow and controlled manner with available time for natural breakdown. 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 bioremediate in the drainage system.

In the event of a serious spillage, either by volume of unknown or toxic compounds, then isolate the spillage with soil, turf or fabric and block outlet pipes from chambers downstream of the spillage with a bung.

Contact the Environment Agency immediately. Tel: 03708 506 506