

**SUDS Maintenance Plan**

**Re: SD22A/0124**

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**Client: Citywise Education**

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REV	DESCRIPTION	DATE	BY	APPROVED	DOCUMENT
A	General Revisions				

**1.0 SUDS Maintenance**

For a SUDS strategy to be successful and work as designed, an initial inspection plan and following regular maintenance regime needs to be employed. Many SUDS components are visible from the surface and unlike traditional drainage systems, which would not have typically used an amenity factor in the design. The SUDS developed strategy may require additional maintenance activities to deliver the desired amenity element, and that these may exceed the traditional objectives of water quality and quantity management. In such cases these needs should be recognised and implemented in addition to the traditional maintenance requirement that would be carried out to the more typical drainage structures.

The function of the SUDS surface water management system should be understood by those who are responsible for the maintenance, as this enables early intervention.

Due to the varied nature of the elements of the SUDS measures, including nature-based components, inspections are important particularly in the initial stages to ascertain the performance of the treatment train, i.e. which shrubs/plants are thriving in the rain water garden, as influenced by the levels of inundation etc. These inspections are to be included in the maintenance schedule.

**2.0 SUDS Maintenance Schedule:**

<b>MAINTENANCE SCHEDULE: SUDS COMPONENT</b>	<b>REQUIRED ACTION</b>	<b>TYPICAL FREQUENCY</b>
<b>SURFACE CHANNELS</b> Regular Maintenance	Remove litter and debris	Monthly/as required
	Removal of silt accumulation	Annually after autumn leaf fall
Remedial actions	Remedial work to any depressions, rutting and cracked or broken drainage channels blocks.	As required
<b>BIO RETENTION SWALES</b> Regular Maintenance	Remove litter and debris	Monthly/as required
	Cut grass, where applicable at perimeter.	Monthly during growing season
	Manage other vegetation, trees, shrubs, remove nuisance plants	Monthly at start, then as required.
	Inspect inlets and outlets for blockages and condition	Monthly
	Inspect inlets for silt accumulation; establish appropriate silt removal frequencies.	Quarterly

<b>MAINTENANCE SCHEDULE: SUDS COMPONENT</b>	<b>REQUIRED ACTION</b>	<b>TYPICAL FREQUENCY</b>
<b>BIO RETENTION SWALES</b> Occasional Maintenance	Reseed areas of poor vegetation; alter plant types that may better suit soil/moisture level conditions.	as required if base soil exposed over 10% or more of swale treatment area.
Remedial Actions	Repair erosion or other damage by re-seeding/re-turfing or replanting shrubs. Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface.	As required As required
<b>RAINWATER GARDEN</b> Regular Inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain cells.	Quarterly
	Check operation of underdrains by inspection of flow after rainfall	Annually
	Assess plants for disease infection, poor growth, invasive species and replace as necessary.	Quarterly
	Inspect inlets and outlets for blockages and condition	Quarterly
	Remove sediment, litter and debris, particularly around inlets.	Quarterly
	Manage other vegetation, remove nuisance plants, and replace any plants/shrubs, to maintain planting density	Quarterly
Occasional Maintenance	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface.	
Remedial Actions	Remove and replace filter medium and surface vegetation.	As required

MAINTENANCE SCHEDULE: SUDS COMPONENT	REQUIRED ACTION	TYPICAL FREQUENCY
<b>PERMEABLE PAVEMENT</b>		
Regular Maintenance	Brushing and vacuuming; sweep over whole surface area.	Annually after autumn leaf fall
Occasional Maintenance	Removal of Weeds, or management using glyphosate applied directly to weeds, rather than spraying.	Annually
Remedial Actions	Remediate any landscaping which through plant maintenance, soil has been raised within 50mm of paving level.	As required
	Remedial work to any depressions, rutting and cracked or broken paving blocks.	As required
	Rehabilitation of surface and upper substructure by remedial sweeping.	Every 10-15 years, or as required (if infiltration performance is reduced due to significant clogging).
Monitoring	Initial inspection	Monthly for first three months after installation.
	Inspect for evidence of poor operation and./or weed growth. If required, take remedial action.	48 hours after large storms for first 6 months, then quarterly.
	Inspect for silt accumulation rates and establish appropriate brushing frequencies.	Annually
<b>FLOW CONTROL CHAMBER</b>		
Regular Maintenance	Inspection and possible silt removal.	Annually
Monitoring	Inspection, during or within 6 hours of large storm.	