

## Operation & Maintenance Plan for Sustainable Drainage Systems Proposed Vehicle Body Workshop Millom Road, Millom

W Milligan and Sons Ltd

Ref: K39647.OM/002

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## 1 INTRODUCTION

### 1.1 BACKGROUND

R. G. Parkins & Partners Ltd (RGP) has been appointed by W Milligan and Sons Ltd to provide an Operation and Maintenance plan for surface water drainage systems at their proposed new vehicle repair workshop in Millom.

In reviewing the enclosed information, reference should be made to the latest revision of the following RGP drawing:

- K39647-100 Proposed Foul & Surface Water Drainage Plan

### 1.2 SUDS COMPONENTS

The development utilises a Sustainable Drainage System (SuDS) as part of the overall surface water drainage strategy for the site.

- The building roof area, front car parking and concrete access ramps will drain positively into a geocellular attenuation tank. A mini-flow control chamber will restrict flows to the Greenfield QBAR. Attenuated flows shall run off-site and discharge into the existing 225mm dia. public surface water sewer located to the south of Millom Road.
- It is proposed the geocellular tank system shall remain private, and as such will be maintained by the site owner.

The drainage system has been designed to provide sufficient storage for the critical duration, 1 in 100-year design storm event with a 50% allowance for the future effects of climate change.

## 2 OPERATION AND MAINTENANCE REQUIREMENTS

As with all traditional drainage systems, SuDS need to be inspected and maintained regularly to ensure that they operate correctly and efficiently. If SuDS are not properly maintained, then there is a risk that the components become overloaded during periods of prolonged heavy rainfall potentially resulting in localised flooding within the development. Recommendations for the maintenance of the SuDS components are detailed in the following section.

As part of this process, it is recommended that inspection and maintenance records are retained by the Management Company to track the progressive performance of the SuDS over time. The inspection records should include the following:

- Sediment condition and depth
- Water observations (sheen, smell, etc.)
- Unscheduled maintenance needs
- Components that do not meet performance criteria and require immediate maintenance
- Common problem areas, solutions and general observations
- Aesthetic conditions

For Health and Safety reasons as well as practicality, SuDS systems should be maintained during periods of dry weather wherever possible. Adhering to the recommended maintenance regimes outlined below will minimise the risk of maintenance activities being required when a fault becomes apparent, usually during a rainfall event.

## 2.1 SURFACE WATER DRAINAGE COMPONENTS

### 2.1.1 GEOCELLULAR STORAGE SYSTEM

Regular inspection and maintenance is important for the effective operation of below ground storage systems. Maintenance responsibility for the tank will be placed with the site owners. The following requirements shown in Table 2.1, refer to the recommendations in The SuDS Manual (CIRIA C753) <sup>[1]</sup>.

**Table 2.1 Attenuation Storage Maintenance Activities and Schedule.**

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	Remove sediment from pre- treatment structures	Annually, or as required.
Remedial Actions	Repair inlets	As required
Monitoring	Inspect / check all inlets to ensure they are in good condition and operating as designed	Annually
	Inspect silt traps to ensure silt collection capacity	Monthly for 3 months after installation, then every 3 months and after a significant rainfall event.
	Survey inside of tank for sediment build up and remove if necessary	Every 5 years or as required.

## 3 REFERENCES

- [1] CIRIA, *The SuDS Manual*, Report C753, 2015.