

Project Reference: 11242

***ROYAL CORNWALL HOSPITALS NHS TRUST (RCHT)
WEST CORNWALL HOSPITAL REDEVELOPMENT
NEW BUILD OUTPATIENT DEPARTMENT***

DRAINAGE SYSTEM MAINTENANCE PLAN

Rev	Date Approved	Notes	Prepared	Checked
P1	16.04.21	PRELIM ISSUE	CN	SC

Airey & Coles Consulting Engineers have prepared this report on behalf of our Client.

Airey & Coles Consulting Engineers
1st Floor Ashleigh Court
Ashleigh Way
Langage Business Park
Devon
PL7 5JX

Tel 01752 229119

Author: CN

INTRODUCTION

This intention of this document is to provide details of responsibilities for maintenance both during and post construction, in addition a comprehensive maintenance scheme is provided for an Infiltration based system following completion of construction, through to routine maintenance following the bedding-in period.

Maintenance of SuDS based designs should be undertaken in accordance with current guidance found in CIRIA C753 – The SuDS Manual 2015, in particular interest is Section 32 Operation and maintenance.

Maintenance Responsibilities

During the construction phase of the development until handover of the site is complete, the principle contractor will be responsible for the inspection and maintenance of the drainage scheme in-line with the maintenance scheme outlined below.

Following handover the site owner(s) RCHT will provide routine inspection and maintenance of the geocellular crated attenuation in-line with the above maintenance schemes. It is anticipated that the owner(s) RCHT will be responsible for the drainage within the curtilage of their property.

General Maintenance

CIRIA 753 recommends the following maintenance procedures as a basis for any maintenance plan:

- Litter and debris removal, this would reduce the chance of blockage of the flow control device and is generally good practice.
 - Sediment removal is required to ensure long term performance of SuDS. This is largely dependent on location, design, silt volume and many others. Sediment removal within pipe-lines can be jetted and picked up within the next chamber.
 - Incorporation of silt traps and/or screens would aid in preventing sediment within the system, as well as, litter and debris removal.
 - CCTV of the pipe network should be undertaken if the system is considered to not work at peak efficiency or if there are any concerns. Remedial works should be undertaken if any faults or issues occur.
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Attenuation System – Crated System

In addition to the general maintenance above, CIRIA 753 states the following regarding attenuation storage tanks:

“Regular inspection and maintenance is required to ensure the effective long-term operation of below ground storage systems. Maintenance responsibility for systems should be placed with a responsible organisation”.

The document provides a comprehensive maintenance scheme (Table 21.3) appropriate for attenuation storage tanks which is as follows:

Table 21.3 Operation and maintenance requirements for attenuation storage tanks

Maintenance Schedule	Required Action	Typical 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
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays.	Annually, or as required
Remedial Actions	Repair/rehabilitate inlets, outlet, overflows and vents.	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.	Annually
	Survey inside of tank for sediment build-up and remove if necessary.	Every 5 years or as required

Flow Control Devices

Extract from Hydro International document "Hydro international Warranty, Maintenance and COSHH Statement".

Normally, little maintenance is required as there are no moving parts within the Flow Control. Experience has shown that if blockages occur, they do so at the intake and the cause on such occasions has been due to a lack of attention to engineering detail such as approach velocities being too low, inadequate benching, or the use of units below the minimum recommended size. The Flow Control (where applicable) is fitted with a pivoting by-pass door, which allows the manhole chamber to be drained down should blockages occur. The smaller type conical units, below the minimum recommended size, are also supplied with rodding facilities or vortex suppressor pipes are standard.

Following installation of the Flow Control it is vitally important that any extraneous material i.e. Building materials are removed from the unit and the chamber. After the system is made live and assuming that the chamber design is satisfactory, it is recommended that each unit be inspected monthly for three months and thereafter at six monthly intervals with hose down if required.
