



SuDS Maintenance and Management Plan

for

Prospect House

Manchester

Client Name: Tilbury Douglas

Our ref: LRD30186

Date: July 2021

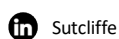
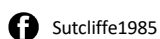
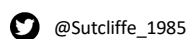
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DOCUMENT VERIFICATION

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Rev	Date	Description	Prepared	Checked	Approved
1	July 2021	First Issue	SB	SB	MP

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1. Introduction

This management and maintenance plan is relevant to planning approval notice referenced 124767/FO/2019.

It is required to discharge Condition 5 of the above referenced planning approval.

The purpose of this management and maintenance plan is to demonstrate how the sustainable drainage system will be managed and maintained during the lifetime of the development.

The development consists the erection of a new school with the provision for 55 car parking spaces and internal roadways.

2. Overview of Development Drainage

The development is drained by a separate drainage system for the foul and surface water drainage.

The drainage design has been developed using of the Flood Risk Assessment and Surface Water Drainage Strategy (FRA) prepared by Sutcliffe in support of the planning application.

The FRA established that destination of the surface water discharge is to be the combined sewer in Bank House Road. The recommendation within the FRA is that surface water runoff for the development be restricted to brownfield runoff rate less 50% in accordance with LLFA requirements.

In general, the topography of the existing site routes surface water runoff from the south west to the north east while the below ground drainage is routed towards Bank House Road. The drainage strategy mimics this discharge by attenuating the development runoff and discharging it to the combined sewer in Bank House Road at the agreed discharge rate established in the Flood Risk Assessment.

Briefly, the surface water drainage system consists of four main elements:

- 1) Linear channel drainage serving the play areas and car park,
- 2) A gravity pipe network connecting the channel drainage,
- 3) A petrol interceptor (serving the car park),
- 4) Cellular attenuation, and
- 5) A vortex control unit.

The cellular storage unit provides attenuation for up to the 100-year return period including an allowance for climate change.

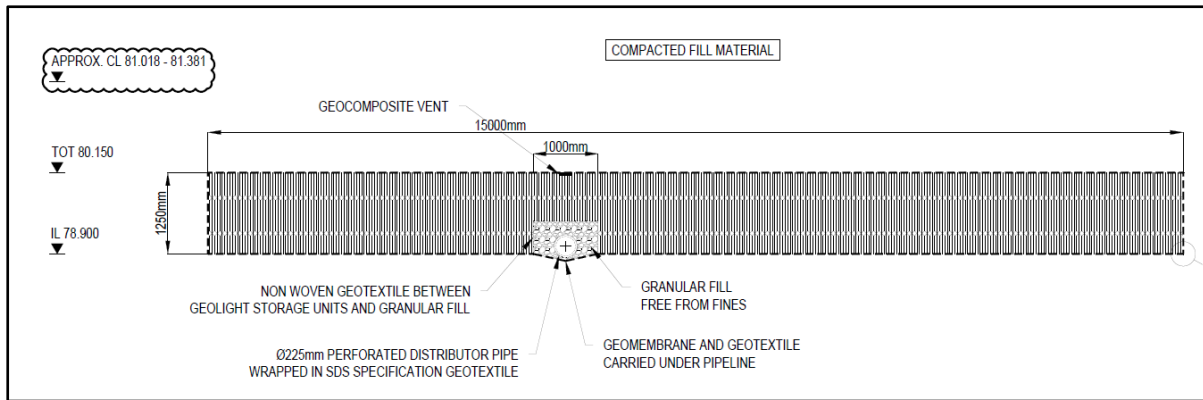


Figure 1: Typical Section Through Cellular Attenuation

The piped network is designed in accordance with Part H of the Building Regulations.

The linear channel drainage is provided with sump units to collect silt and prevent this from settling in the piped system and attenuation tank.

As the car park is larger than 50 spaces/800m² a petrol interceptor has been provided.

Discharge from the drainage system is controlled via a vortex control.

3. Maintenance Regime

The proposed drainage system will remain private following completion. The land/property owner will be responsible for the management and maintenance of the private elements of proposed system which include the linear drainage, cellular units, pipes, petrol interceptor, and flow control.

Following construction there will be a 12-month defects/maintenance period during which the principal contractor will retain responsibility.

Table 1 identifies the key management and maintenance requirements, as per the SuDS Manual CIRIA C753) for the SuDS components shown on the drainage plan. The maintenance requirements can be grouped in to three categories: regular maintenance, occasional maintenance, and remedial maintenance.

Regular maintenance consists of the basic tasks that are carried out frequently and on a predictable schedule.

Occasional maintenance consists of tasks that are predictable but are not required a frequently as those falling under the regular maintenance.

Remedial maintenance is only required to rehabilitate the system when faults are identified during regular or occasional maintenance or pollution leads to contamination of the system.

Operation and Maintenance Activity	SuDS Component		
	Cellular Storage	Linear Drainage	Proprietary Systems/Components
Regular Maintenance			
Inspection	■	■	■
Litter and Debris Removal	□	■	□
Occasional Maintenance			
Sediment Management	■	■	■
Vegetation replacement		□	
Remedial Maintenance			
Structure rehabilitation/repair	□	□	□

Table 1: SuDS Maintenance Activities

■ will be required.

□ may be required.

After the initial hand-over inspection confirms the system has been constructed and installed as designed inspections should take place monthly for 12-months. The frequent initial inspections will help determine the optimum maintenance routine as well as identify performance issues such as silt build-up and poorer infiltration than expected.

The operation and maintenance requirements for the SuDS features are noted in tables 2 and 3.

Maintenance Frequency	Maintenance Activity	Activity 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.	Monthly.
	Remove sediment from pre-treatment structures (gullies, sumps etc).	As required, after major storms.
Remedial Actions	Repair/Rehabilitate inlets, outlets, 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.

Table 2: Cellular Storage Operation and Maintenance Regime (source: CIRIA C753)

Maintenance Frequency	Maintenance Activity	Activity Frequency
Regular Maintenance	Remove litter and debris	Monthly
	Inspect inlets, outlets and overflows for blockages	As required, after major storms
Occasional Maintenance	Remove silt from sump	As required
Remedial Maintenance	Replace damaged/loose grating	As required

Table 3: Linear Drainage Operation and Maintenance regime

The petrol inceptor is fitted with audible and visual alarms to alert the occupier that the system requires attention. All maintenance of the petrol inceptor should be carried out by a specialist to mitigate the risk of pollution. A standard interceptor service should consist of:

- A complete inspection of the structure for damage,
- Remove, clean and test the oil probe,
- Removal of excess oil as required to maintain performance,
- Check that all components of the interceptor are operational.

For additional details on the maintenance of the interceptor reference should be made to the relevant manufacturer's requirements and recommendations. Servicing requirements will depend on the contaminant load of the car park surface runoff.

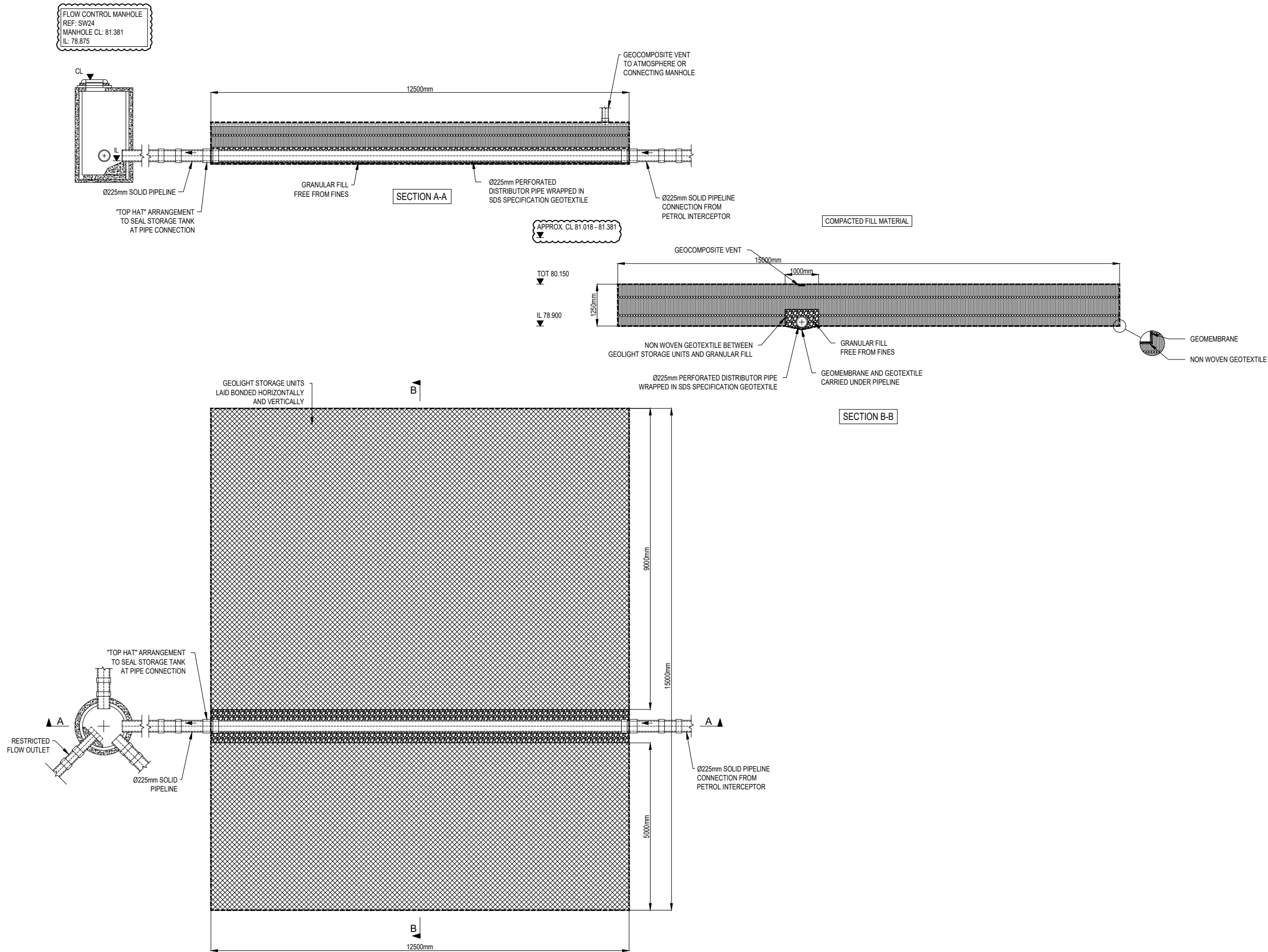
The pipe network should be inspected once installation is complete with any sediment or building material that may have accumulated during construction removed. The network should be inspected after 12-months for sediment that may have accumulated in the system while planting becomes established, there after inspections should take place every 5 years to ensure the pipe network is clear and free flowing.

The vortex flow control normally requires very little maintenance as there are no moving parts within the control. The flow control is fitted with a hinged bypass that can be operated from the surface in the event of a blockage. The flow control is installed in a manhole with a sump, the sump should be inspected every 6 months (monthly for 3 months after installation) and after all major storm events. Silt and debris should be removed from the sump if present during inspection.

4. Provision for ongoing maintenance

The maintenance of the private SuDS features, the attenuation, pipes, linear drainage, and flow control, will be detailed in the development's operation and maintenance manual. The petrol interceptor will require maintenance from a specialist and should be arranged as required. Following completion of the development the School will be responsible ongoing management.

5. Appendix



Notes:

This Drawing is to be read in conjunction with all relevant Architects' Engineer's and specialists' drawings and specifications.

Do not scale from this drawing in either paper or digital form. Use written dimensions only.

SDS to leave solid stub only, exiting tank for connection by others.

All external Manholes, Access Points, Junctions & Pipe are shown for guidance only and not part of the SDS program unless otherwise agreed.

D	PIPE LAYOUT & LEVEL UPDATE ISSUED FOR APPROVAL	RJ SP	11.03.21
C	PIPE LAYOUT UPDATE ISSUED FOR APPROVAL	RJ SP	19.02.21
B	NEW LAYOUT ISSUED FOR APPROVAL	RJ SP	08.02.21
A	DRAWING FRAME UPDATE ISSUED FOR APPROVAL	RJ SP	22.01.21
-	ISSUED FOR APPROVAL	RJ SP	03.03.20
Rev	Comments	Date	
		DRW CHK	

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MANCHESTER SEND PROSPECT
HOUSE PRIMARY SCHOOL

KELLY CONTRACTING

ATTENUATION TANK 1 DETAIL

REFERENCE DRAWINGS:			
Drawing Number	Revision	Drawing Title	Date
FS0831-SUT-ZZ-00-DR-C-620-0001	C02	DRAINAGE PLAN	04.03.21

Scale	NTS	Date	03.03.20
Drawing No	E273119_01_-	Rev	D