advant ENGINEERS

YEW TREE ROAD
BIRCHENCLIFFE
HUDDERSFIELD
HD2 2FY

SUDS DRAINAGE MAINTENANCE STRATEGY

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Issue Sheet.

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A	Initial Issue	08.08.24

The report is based on the information that has been acquired and / or made available to Advant Engineers via the various searches and consultations undertaken as part of the Drainage Strategy. In some cases, anecdotal information has been relied upon, where documented evidence has been lacking.

The conclusions drawn in the above report are considered correct although any subsequent additional information may allow refinement of the conclusions.

All work carried out in preparing this report has utilised and is based upon Advant Engineers current professional knowledge and understanding of current UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and cause any conclusions to become inappropriate or incorrect.

This report has been prepared using information contained in maps and documents prepared by others. Advant Engineers can accept no responsibility for the accuracy of such information.

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1. Introduction

1.1. Advant Engineers Ltd has been commissioned by North Park Homes to undertake the drainage design at the scheme off Yew Tree Road in Birchencliffe.

1.2. This report is to outline the SUDS drainage maintenance strategy, this will determine the different SUDS features on the site, the necessary maintenance of the SUDS features and the frequency in which they should be inspected.

1.3. This report should be read in conjunction with drawings 22046-113 & 22046-115 and associated architectural and engineering drawings.

2. SUDS Drainage Layout

2.1. The surface water drainage for the site consists below ground pipes and chambers that discharge to the public sewer, the attenuation on site is provided within a concrete tank and the flow is restricted by a Vortex Flow Control, specifically a Hydro Brake Unit by Hydro International. (See Drawing 22046-113 for drainage layout plan.

3. SUDS Operations and Maintenance Plan

3.1. The proposed drainage strategy consists of several SUDS elements which can have different responsibilities on the operation and maintenance and each one will require routine checks and repairs, these different SUDS elements and their required maintenance are as outlined in the tables below.

ELEMENT	RESPONSIBILITY		
	PUBLIC	PRIVATE	MAINTENANCE COMPANY
ATTENUATION TANK	✓		
FLOW CONTROL	✓		

FLOW CONTROL MANHOLE

Maintenance schedule	Required action	Typical frequency
Routine maintenance	Remove litter and debris and inspect for sediment, oil and grease accumulation	Six monthly
	Change the filter media	As recommended by manufacturer
	Remove sediment, oil, grease and floatables	As necessary – indicated by system inspections or immediately following significant spill
Remedial actions	Replace malfunctioning parts or structures	As required
Monitoring	Inspect for evidence of poor operation	Six monthly
	Inspect filter media and establish appropriate replacement frequencies	Six monthly
	Inspect sediment accumulation rates and establish appropriate removal frequencies	Monthly during first half year of operation, then every six months

**The flow control unit is provided by Hydro International and their installation and maintenance instructions should be adhered to in conjunction with the above schedule.*

ATTENUATION TANK

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

3.2. The above operation and maintenance requirements have been taken from the CIRIA document C753 – The SUDS Manual, these are a minimum guidance and as it is noted above both of these SUDS features are to be adopted by Yorkshire Water who will have their own maintenance schedule that we have faith will be concise and robust to maintain their own assets.

3.3. In addition, it is expected that Yorkshire Water will have a standard set of Risk Assessments and Health & Safety guidance on the maintenance of all of their drainage assets to ensure a safe working environment for their employees when undertaking such tasks.

3.4. In the event of a blockage or asset failure then Yorkshire Water should be contacted who will then be responsible for the timely repair of the failure and reinstating the asset to its working status.

3.5. The SUDS manual also provides a maintenance inspection checklist, a copy of which can be found in the appendix.

APPENDIX

Table B.25 SuDS maintenance inspection checklist			
General information			
Site ID			
Site location and co-ordinates (GIS if appropriate)			
Elements forming the SuDS scheme		Approved drawing reference(s)	
Inspection frequency		Approved specification reference	
Type of development		Specific purpose of any parts of the scheme (eg biodiversity, wildlife and visual aspects)	

Inspection date								
	Details	**Y/N**	**Action required**	**Date completed**	**Details**	**Y/N**	**Action required**	**Date Completed**
General inspection items								
Is there any evidence of erosion, channelling, ponding (where not desirable) or other poor hydraulic performance?								
Is there any evidence of accidental spillages, oils, poor water quality, odours or nuisance insects?								
Have any health and safety risks been identified to either the public or maintenance operatives?								
Is there any deterioration in the surface of permeable or porous surfaces (eg rutting, spreading of blocks or signs of ponding water)?								

Silt/sediment accumulation								
Is there any sediment accumulation at inlets (or other defined accumulation zones such as the surface of filter drains or infiltration basins and within proprietary devices)? If yes, state depth (mm) and extent. Is removal required? If yes, state waste disposal requirements and confirm that all waste management requirements have been complied with (consult environmental regulator)								
Is surface clogging visible (potentially problematic where water has to soak into the underlying construction or ground (eg underdrained swale or infiltration basin)?								
Does permeable or porous surfacing require sweeping to remove silt?								
System blockages and litter build-up								
Is there evidence of litter accumulation in the system? If yes, is this a blockage risk?								
Is there any evidence of any other clogging or blockage of outlets or drainage paths?								
Vegetation								
Is the vegetation condition satisfactory (density, weed growth, coverage etc)? (Check against approved planting regime.)								
Does any part of the system require weeding, pruning or mowing? (Check against maintenance frequency stated in approved design.)								
Is there any evidence of invasive species becoming established? If yes, state action required								
Infrastructure								
Are any check dams or weirs in good condition?								
Is there evidence of any accidental damage to the system (eg wheel ruts?)								

Is there any evidence of cross connections or other unauthorised inflows?								
Is there any evidence of tampering with the flow controls?								
Are there any other matters that could affect the performance of the system in relation to the design objectives for hydraulic, water quality, biodiversity and visual aspects? (Specify.)								
Other observations								
Information appended (eg photos)								
Suitability of current maintenance regime								
Continue as current Increase maintenance Decrease maintenance								
Next inspection								
Proposed date for next inspection								

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