



**Pagham Road,
Pagham,
West Sussex**

SuDS Operations & Maintenance Manual

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O	Initial issue	March 2017	KHN
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CONTENTS

1.0	INTRODUCTION.....	3
2.0	ATTENUATION STORAGE AND FLOW CONTROL DEVICES	5
3.0	DOWNSTREAM DEFENDERS.....	7
4.0	DITCH NETWORK.....	8

Table 1:	Operation and Maintenance Requirements - Attenuation Storage	5
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Table 2:	Operation and Maintenance Requirements - Flow Control Devices	6
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Table 3:	Operation and Maintenance Requirements - Downstream Defender	7
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Table 4:	Operation and Maintenance Requirements - Ditch Network.....	8
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Appendix A	As built Information
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Appendix B	Manufacturer's Information
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Appendix C	Inspection Records
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Appendix D	Maintenance Regime Monitoring and Review
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1.0 INTRODUCTION

- 1.1 Regular inspection and maintenance is important for the effective operation of the SUDS drainage features across the development.
- 1.2 The following SUDS features have been designed into the development to control the surface water run-off and any pollution created through the discharge from impermeable areas such as roofs, drives and roads.
- Attenuation through Sub-base Storage and Flow Control Devices
 - Downstream Defender
- 1.3 In addition to the above SUDS features the receiving ditch network is an integral part of the SUDS operation and should be maintained to ensure the effective operation of the overall system.
- 1.4. In order to ensure the continued effective operation of the SUDS features maintenance regimes have been provided for each of the above features.
- 1.5 This document has been prepared at the design stage and should be considered as part of an evolving process. Following construction as built information and drawings should be included. The post construction information should include drawings detailing the extent and location of SUDS features together with relevant manufacturer's details.
- 1.6 The following maintenance regimes should be amended/updated to suit specific manufacturers' requirements for the various components installed.
- 1.7 The following appendices have been included to allow for additional information and records to be included post construction.

- **Appendix A** 'As Built' Information
- **Appendix B** Manufacturer's Information
- **Appendix C** Inspection Records
- **Appendix D** Maintenance Regime: Monitoring and Review

1.8 It should also be recognised that for a maintenance regime to continue to be appropriate and fit for purpose a constant monitoring ethos should be adopted and any corrective measures implemented to ensure that the correct maintenance regimes going forward are in place. Inspection records should be kept and used as a basis for the determining the suitability of the maintenance regimes and the areas of the development requiring attention.

1.9 In order to maintain an effective maintenance regime a management company is to be formed by the developer which will be responsible for the regular maintenance and inspection of the SUDS installations. Funding of the management company will be through an annual fee paid by each household.

2.0 ATTENUATION STORAGE AND FLOW CONTROL DEVICES

- 2.1 Attenuation storage is provided within the main carriageway sub-base layer. All discharge from roofs and drives passes through a silt/oil trap before being discharged into the sub-base through a diffuser. Carriageway drainage is through trapped gullies which will discharge directly into the sub base via an oil interceptor.
- 2.2 The sub-base attenuation storage will be wrapped in an impermeable membrane to contain discharged water.
- 2.3 The flow control device being used is a Vortex Control, '*Hydro-Brake*' or similar, fitted within a concrete manhole.

Table 1: Operation and Maintenance Requirements – Attenuation Storage

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance.	Inspect all silt/oil traps and oil interceptors	At six monthly intervals, Autumn and Spring
Remedial actions.	Remove any sediment or deposits with vacuum suction.	At six monthly intervals, Autumn and Spring.
Monitoring.	Inspect/check all inlets, outlets and overflows to ensure that they are in good condition and operating as designed.	Annually

Table 2: Operation and Maintenance Requirements - Flow Control Devices

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance.	Inspect and identify any areas that are not operating correctly, take remedial action.	Monthly for 3 months, then annually.
	Remove any sediment from flow control devices.	Annually (or as required).
Remedial actions.	Repair/rehabilitate inlets, outlet, overflows and vents.	As required.
Monitoring.	Inspect/check all inlets, outlet, and overflows to ensure that they are in good condition and operating as designed.	Annually
	Where fitted check operation of by-pass door.	Annually

3.0 DOWNSTREAM DEFENDERS

- 3.1 The *Downstream Defender*, manufactured by Hydro International is a hydrodynamic vortex separator that removes fine and coarse particles, hydrocarbons and floatable debris from storm water runoff,
- 3.2 The *Downstream Defender* has a large storage volume for pollutants captured from storm water runoff and offers protection to watercourses from accidental spills of oil/light liquids.
- 3.3 Maintenance is safe and easy with a standard vactor truck; there is no need to enter the space. Maintenance consists of removing sediments from the sump and floatable oils, grease, litter and other debris from the floatable capture zone..

Table 3: Operation and Maintenance Requirements - Downstream Defender

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance.	Oil and floatables	Annually in conjunction with sediment removal and following spill in the drainage area.
	Sediment removal	Annually (or as required). and following spill in the drainage area.
Monitoring.	In accordance with manufacturers guidance and recommendations	Every six months during first year of operation to determine site specific rate of pollution accumulation.

4.0 DITCH NETWORK

- 4.1 The receiving ditch network is an integral part of the SUDS train for the disposal of surface water drainage and as such regular maintenance and inspection is necessary.
- 4.2 Several points of access to the outfall ditch will be available at locations within the communal public open space areas in order to perform the maintenance functions.

Table 4: Operation and Maintenance Requirements – Ditch Network

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance.	Removal of any objects through 'fly tipping' or natural occurrences.	Annually in conjunction with sediment removal and grass cutting maintenance.
	Sediment removal and grass cutting.	Annually
Monitoring.	Visual inspection of ditch	At six monthly intervals, Autumn and Spring in conjunction with other maintenance attendances.

Appendix A

Appendix B

Appendix C

Appendix D

Monitoring and Review Table

Revision	Revision Description	Date	Initials