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Maintenance and Management Plan for Drainage Systems
Ref: 236/2020/MMP/P1

Site: 236-2020 – Proposed 16 No. Plot Development off Station Road, Bentley, Suffolk.
Associated Planning Permission Ref: B/17/00003
Date: 11/02/2021

1.0. Surface Water Drainage Systems

Due to the size of the development and the proposed use of infiltration drainage methods, full adoption of the surface water drainage elements by any drainage authority is not expected. The management responsibility for the drainage beyond the dwelling curtilages will be retained by a management company that will be set up by the developer for the purpose of managing ongoing maintenance of the drainage components, namely the main permeable access road.

The new private Homeowners will take ownership of the private driveway drainage following sale completion. Subsequently, the Homeowner will take on responsibility for the maintenance of the associated private drainage within their dwelling curtilage, including for the soakaway features.

Homeowners will be made aware of their maintenance responsibilities and any requirement to contribute towards the running of the management company via the house sale deeds and Homebuyer packs to be provided by the Developer, who by copy to this report is also aware of all their responsibilities in this regard.

Surface Water Drainage Maintenance Schedules are detailed in the following sections 2.0 to 4.0. Examples of associated Monitoring and Maintenance Record Sheets are shown in section 5.0.

2.0. Inspection Chambers, Catchpits and Piped Networks: Operation and Maintenance Requirements

Surface water chambers with sumps act to provide water treatment through the removal of silt suspended in water. The less silt contained within a sump, the more effectively it removes particles. There must be a balance between maintenance and cost.

To service the surface water drainage system, we would suggest inspection, silt removal and, if necessary, rodding of any blockages and jetting through of any blocked pipework on a minimum of two occasions per year. It would be advisable that these happen prior to and following the winter months such as in September and March. If further maintenance is required, it would be expected that this would also be required in the winter as this is the predominant raining season.

SuDS Element	Chambers and Gullies		
Maintenance Issues	Build-up of silt/debris		
Schedule	Action	Frequency	Responsibility
Regular	Remove silts and other debris from chamber/ gully	Annually (in autumn, after leaf fall)	Maintenance Company / Highway Authority/ Private Owner
	Check for evidence of poor operation	Three-monthly (or 48 hrs after large storms)	Maintenance Company / Highway Authority/ Private Owner
	Check (inlet) inspection chambers and pipework.	Annually	Maintenance Company / Highway Authority/ Private Owner
	Inspect silt accumulation rates and adjust cleaning frequencies accordingly.	Annually	Maintenance Company / Highway Authority/ Private Owner
Occasional	Remove sediment, oil, grease and floatables	As Required	Maintenance Company / Highway Authority/ Private Owner
Remedial	Replace malfunctioning parts or structures	As Required	Maintenance Company / Highway Authority/ Private Owner

3.0. Permeable Pavements: Operation and Maintenance Requirements

Regular inspection and maintenance are important for the effective operation of pervious pavements. Before handing over the facility to the Client, it should be inspected for clogging, litter, weeds and water ponding and all failures should be rectified. After handover, the facility should be inspected regularly, preferably during and after heavy rainfall to check effective operation and to identify any areas of ponding.

SuDS Element	Permeable Paving		
Maintenance Issues	Pervious surfaces are susceptible to silt blockage		
Schedule	Action	Frequency	Responsibility
Regular	Localised surface brushing to reduce silt accumulation.	Monthly	Management Company (road) Private owner (driveways)
	Brushing and suction sweep or jet wash and suction sweep. Replace lost jointing material.	Annually (in autumn, after leaf fall)	Management Company (road) Private owner (driveways)
	Check for evidence of poor operation and/or weed growth	Three-monthly (or 48 hrs after large storms)	Management Company (road) Private owner (driveways)
	Check outlets and control structures.	Annually	Management Company (road) Private owner (driveways)
	Inspect silt accumulation rates and adjust brushing frequencies accordingly.	Annually	Management Company (road) Private owner (driveways)
Occasional	Jetting and suction where silt has accumulated in joints or voids. Replace lost jointing material and vibrate surface to lock.	As Required	Management Company (road) Private owner (driveways)
	Stabilise and mow grass edges to paving at 35-50 mm and remove weeds and leaves.	As required	Management Company (road) Private owner (driveways)
Remedial	Where shrinkage or surface damage occurs, uplift blocks, remove grit bedding layer and geotextile if present and reinstate to design profile.	As Required	Management Company (road) Private owner (driveways)
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users and replace lost jointing material.	As Required	Management Company (road) Private owner (driveways)
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 -15 years (or as required)	Management Company (road) Private owner (driveways)

Note 1:

Pervious surfaces need to be regularly cleaned of silt and other sediments to preserve their infiltration capability. As suggested a minimum of three surface sweepings per year is relevant although Manufacturers' recommendations should always be followed.

Note 2:

Permeable Block Paving should be checked and cleared 48-hours after a large rainfall event.

A brush and suction cleaner, which can be a lorry-mounted device or a smaller precinct sweeper, should be used and the sweeping regime should be as follows:

1. End of winter (April) – to collect winter debris.
2. Mid-summer (July/August) – to collect dust, flora, fauna and grass-type deposits.
3. After autumn leaf fall (November).

The likely design life should be no different from standard asphalt assuming that an effective maintenance regime is in place to minimise risks of infiltration clogging.

Materials removed from the voids or the layers below the surface may contain heavy metals and hydrocarbons and may need to be disposed of as a controlled waste. Sediment testing should be carried out before disposal to confirm its classification and appropriate disposal methods.

4.0. Trench Soakaways: Operation and Maintenance Requirements

To ensure appropriate operation of channel drainage as a collecting and conveyancing system, regular inspection of the grate cover should be completed to avoid build-up of debris. If located near to trees which shed their leaves, more regular inspection and clearance may be required.

The base of drainage channels and the outlet sumps may be subject to siltation and blockages from any material which may pass through the cover grating. These should be inspected and cleaned twice a year, we would advise this is completed prior to and following the winter months (September and March).

SuDS Element	Operation and maintenance requirements for Soakaways		
Maintenance Issues	Build-up of silt/debris		
Schedule	Action	Frequency	Responsibility
Regular	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	Annually	Private owner
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)	Private owner
	Trimming any roots that might be causing blockages	Annually (or as required)	Private owner
Occasional	Remove any sediment and debris from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	As Required, based in inspections	Private owner
Remedial	Reconstruct soakaway and/or replace or clean void fill if performance deteriorates or failure occurs	As Required	Private owner
	Replacement of clogged geotextile (will require reconstruction of soakaway)	As Required	Private owner

5.0. Monitoring and Maintenance Record Sheets

Surface Water Drainage Maintenance and Management Plan - Monitoring and Maintenance Record Sheet

Job No.	236/2020	**Sheet Ref:**	SWMS/01
Site	Residential 16 No. Plot Development		
Address	Station Road, Bentley, Suffolk		
Description of Works	Residential Development		
Company Responsible for the maintenance of the system	Thorcross Builders Ltd.		
Maintenance Personnel	TBC		

Drainage Components	Location	Maintenance Description	Frequency **	Person Responsible	Maintenance Sheet Reference
Pipes	Access Road	Refer to Maintenance and Management Plan Ref: 236/2020/MMP/P1	6 months	TBC	SWMS/02
Chambers	Access Road	Refer to Maintenance and Management Plan Ref: 236/2020/MMP/P1	Note*	TBC	SWM/S03
Gullies	Access Road	Refer to Maintenance and Management Plan Ref: 236/2020/MMP/P1	Note*	TBC	SWMS/04
Permeable Road	Access Road	Refer to Maintenance and Management Plan Ref: 236/2020/MMP/P1	Note*	TBC	SWMS/05

***NOTE: Refer to the recommendations in the Maintenance and Management Plan Ref: 236/2020/MMP/P1**

****NOTE: The frequency of maintenance can be amended, if necessary, as the maintenance requirements are estabilished over time i.e. more or less frequent as site conditions dictate**

Surface Water Drainage Maintenance and Management Plan - Monitoring and Maintenance Record Sheet

Job No.	236/2020	**Sheet Ref:**	SWMS/02
Site	Residential 16 No. Plot Development		
Address	Station Road, Bentley, Suffolk		
Description of Works	Residential Development		
Company Responsible for the maintenance of the system	Thorcross Builders Ltd		
Maintenance Personnel	Name		

Drainage Component	Location	Maintenance Description	Frequency *	Person Responsible
Pipes	Access Road	Check and clear debris and silt	6 Months	Name

Date of Inspection	Observations	Maintenance Work Undertaken	Maintenance Completed By	Date of next inpsection
dd/mm/yyyy	Description	Details of Maintenance Works	Name	dd/mm/yyyy

***NOTE: The frequency of maintenance can be amended, if necessary, as the maintenance requirements are estabilished over time i.e. more or less frequent as site conditions dictate.**