



North West Division

Proposed development at:

Lathom Pastures (Phase II),
Lathom

SuDS Management & Maintenance Plan

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SuDS Management & Maintenance Plan

Introduction

This document sets out the principles for the long-term management and maintenance of the surface water Sustainable Drainage Systems (SuDS) to be constructed at a development site off Neverstitch Road, Lathom.

The purpose of this document is to set out the basis of the development SuDS Maintenance Plan and to ensure that the adopting management company is entrusted with a robust inspection and maintenance programme, ensuring the optimum operation of the surface water drainage network is continually maintained for the lifetime of the development and to prevent the increased risk of flooding both on and off site in accordance with the National Planning Policy Framework (NPPF).

The activities listed in this document are generic to the relative SuDS types and represent the minimum maintenance and inspection requirements, however additional tasks or varied maintenance frequency may be instructed by the maintenance company as required.

Specific maintenance needs of the SuDS elements should be monitored, and maintenance schedules adjusted to suit requirements.

All those responsible for maintenance should follow relevant Health and Safety legislation (Health and Safety at Work Regulations, 1999) for all activities listed within this report including lone working, if relevant) and risk assessments should always be undertaken.

Any contractor employed by the Management Company shall carry out periodic maintenance of all such SuDS in accordance with the schedules listed in this report. Inspection checks shall be carried out by a qualified and competent person, at the minimum intervals listed within the schedules and the appropriate work carried out.

The proposed development site is considered as Greenfield.

Site Topography

The topographical survey shows that the site slopes from 63.23metres Above Ordnance Datum (m AOD) in the south to 59.64m AOD in the north-east.

Existing Boundaries

Direction	Land Use
North	Proposed residential development site (above Old Engine Lane) – Wain Homes development site.
South	Current residential development site – Bellway Homes (Phase I)
East	Neverstitch Road – beyond which lies existing residential developments
West	Firswood Road – beyond which is agricultural land

SuDS Management & Maintenance Plan

SuDS Layout & Design

Bellway assumes all responsibility for the operation and maintenance of the drainage infrastructure during the construction stages.

On final completion, the drainage infrastructure will either be adopted by United Utilities as part of a S104 agreement or to a Management Company, funded by the homeowners through a service charge ensuring maintenance will be undertaken in perpetuity.

The storm water drainage strategy for the proposed development utilises SuDS features to intercept and convey all pluvial surface water runoff. The design of the system aims to attenuate runoff and encourage infiltration (where feasible).

The proposed storm water system consists of the following SuDS components:

2 No. Swales

There are three categories of maintenance activities referred to in this report:

Regular maintenance (including inspections and monitoring).

Consists of basic tasks done on a frequent and predictable schedule, including vegetation management, litter and debris removal, and inspections.

Occasional maintenance

Comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks (sediment removal is an example).

Remedial maintenance

Comprises intermittent tasks that may be required to rectify faults associated with the system, although the likelihood of faults can be minimised by good design.

Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events, and as such timings are difficult to predict.

SuDS Management & Maintenance Plan

SuDS Management

Swales and Associated Headwalls

Note: The operations contained within this section specific to the maintenance of landscaping, shall be read in conjunction with any development landscape maintenance plan(s).

The land drainage system including the swales and associated inlet / outlet headwalls will be subject to a routine monitoring and maintenance schedule as part of the general site management.

This will be carried out at monthly intervals between 1 April and 31 October and once between 1 November and 31 March unless otherwise detailed. A record of maintenance visits and remedial operations shall be maintained.

The following guidelines are offered as an initial regime, but maybe either increased or decreased by the management company depending on the local environment and any external contributing factors.

The key maintenance requirement for the swales and associated inlet / outlet headwalls will be the maintenance of vegetation and mowing of grass within and on the banks/verges and the removal of accumulated sediments and collection of litter and debris.

During the inspections the general operation, and structural condition of the inlet / outlet headwalls and any erosion of banks or scour control features should be identified and rehabilitated as required.

Vegetation in and on the banks of the basins should be trimmed twice a year, preferably in April and October to a height of 100mm to establish a dense sward and provide long grass margins which will discourage public access down to the water's edge. Cuttings from any clearance work should be removed to avoid it causing blockages downstream.

Accumulated sediments should be removed from the bed of the basins as required (once deposits exceed 25 mm in depth). The frequency of this operation can vary depending on local conditions; however, it is recommended that the level of silts should be monitored at least once a year and a maintenance regime implemented to suit.

De-silting of the swales will usually be on a 10-15-year cycle depending on the on-going silt level checking. The desilting work will be carried out under the supervision of consulting engineers and to a pre-agreed method statement. Such a method statement should be submitted in writing to Lancashire County Council and agreed in advance of the commencement of the works

Prior to desilting works commencing, a suitably qualified ecologist shall be appointed to undertake an assessment of the ecological interest within the pond and its margins.

In the event that the swales develop ecological interest, then careful consideration will be given to the timing of this operation. Sediments excavated from the pond and swale that receive runoff from Greenfield areas are not toxic or hazardous material and can be safely disposed of by either land application or landfilling.

However, consultation should take place with the environmental regulator to confirm appropriate protocols. If the silt is non-hazardous it can be put it on the bank of the pond / swale and depositing silt on top of the banks allows for any organisms to re-establish.

SuDS Management & Maintenance Plan

SuDS Maintenance

Operation and Maintenance Requirements for Swale

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance	Remove litter and debris	Monthly (or as required)
	Cut the grass – to retain grass height within specified design range	Monthly (during growing season), or as required
	Manage other vegetation and remove nuisance plants	Monthly at start, then as Required
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours	Monthly, or when required
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies	Half yearly
Occasional maintenance	Reseed areas of poor vegetation growth, alter plant types to better suit conditions, if required	As required or if bare soil is exposed over 10% or more of the swales treatment area
Remedial actions	Repair erosion or other damage by re-turfing or reseeding	As required
	Relevel uneven surfaces and reinstate design levels	As required
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface	As required
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip	As required
	Remove and dispose of oil or petrol residues using safe standard practices	As required

Ref. Table 17.1 CIRIA C753 'The SuDS Manual'

The maintenance requirements detailed above are to be undertaken by the site owner / managing party.

Signed:

PAUL WILLIAMS
REGIONAL TECHNICAL DIRECTOR
BELLWAY HOMES LIMITED – NORTH WEST DIVISION

Date: