BANNERS GATE
CIVIL, STRUCTURAL AND TRANSPORTATION ENGINEERS

Surface Water Management Statement for Development at Eric Wall Nursery, Lake Lane, Barham-Issue 3

Client Redrow Homes Southern Counties.

Introduction:-

This statement outlines the proposed Surface Water Drainage Management Plan for the Sustainable Drainage components incorporated within the proposed residential development at Eric Wall Nursery, Lake Lane, Barnham. The management plan is in accordance with the approved surface water drainage strategy-Issue 2 for the site issued in May 2017 and developed further over June to August 2018.

A Management Company is to be established to ensure the Plan is enacted.

Surface Water Drainage System

1.0 Proposed Surface Water Drainage

1.01 The overall surface water drainage strategy was originally promoted by JNP Engineers who undertook the initial drainage strategy for the development and the detailed civil engineering design for Phase 1 of the development.

1.02 The strategy employs the use of a 2-stage cascade system. The upper system serves most of the surface water run-off from Phase 2 of the development site and consists of a piped network gravitating to an attenuation pond located adjacent to the western boundary of the development site.

1.03 A control chamber with a hydrobrake control limiting the surface water discharge from this portion of the site to 10 l/s for storm events up to the 100 year+30% for climate change has been provided.

1.04 The outfall from the Phase 2 pond and the remaining surface water run-off from Phase 1 and part of Phase 2 gravitates to an additional pond within the Phase 1 area located adjacent to the lower northern boundary of the site. The surface water discharge from the Phase 1 pond has been restricted to 21.7 l/s to accommodate storm events up to the 100 year + 30% for climate change.

1.05 The proposed pond located in Phase 2 will have bank slopes set at 1 in 4 with a 2m maintenance margin adjacent to the top of bank level.

1.06 Due to expected relatively high ground water levels an impermeable liner has been installed within the Phase 2 pond construction and car will need to be taken when excavating within the area of the Phase 2 pond.

1.07 Please refer to attached drawing no's 17071/130 & 17071/131 which indicated the extent of the surface water drainage system and the location of Ponds 1 & 2 with the associated control chambers.

1.08 Gravel margins should be provided on low side of property retaining walls to counter any surface water discharge to neighbouring properties. Please refer to drawing RED575_2000 for details.

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Maintenance:-

The maintenance of the positive surface water drainage elements of system is outlined in Table 1 below: -

Gully and drainage channels are to be provided to allow surface water runoff to enter the below ground piped drainage network. The following table provides guidance on the recommended type and frequency of maintenance requirements for the positive drainage network.

Schedule	Action	Recommended Frequency
Monitoring	Inspect gully's and drainage channels	Monthly during the first year post-construction and thereafter annually
Regular Maintenance	Remove sediment	As required based on inspections
Remedial Actions	Drain jetting and CCTV Survey if deemed necessary	If blockage occurs

Table 1: Operation and Maintenance requirements for positive drainage network

The following SuDS components are proposed:

- **Ponds (see Table 2).** Note- Pond 2 has an impermeable liner and care to be taken when undertaking excavations within the Pond 2 area to avoid damage to the pond liner.

Schedule	Action	Recommended Frequency
Monitoring	Inspect inlets, outlets, banksides, trash screen to Pond 1 outlet headwall	Monthly
	Inspect dry pond banks for signs of poor quality and erosion	Monthly (May-October)
	Inspect silt accumulation	Monthly during the first year post-construction and bi-annually thereafter
	Hydrobrake Flow Control Structure/Device	Monthly during the first year post-construction and bi-annually thereafter
Regular Maintenance	Remove litter and debris	Monthly (as required)
	Grass cutting	Monthly (as required)
	Submerged and emergent aquatic plant cutting	Annually
	Sediment removal	Every 5 years, or as required
Remedial Actions	Repair erosion	As required
	Replant	
	Pond aeration	

Table 2– Recommended operation and Maintenance requirements for Ponds

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Existing Ditch courses (See Table 3).

Schedule	Action	Recommended Frequency
Monitoring	Inspect inlets, outlets, banksides	Monthly
	Inspect dry pond banks for signs of poor quality and erosion	Monthly (May-October)
	Inspect silt accumulation	Monthly during the first year post-construction and bi-annually thereafter
		Monthly during the first year post-construction and bi-annually thereafter
Regular Maintenance	Remove litter and debris	Monthly (as required)
	Submerged and emergent aquatic plant cutting	Annually
	Sediment removal	Every 5 years, or as required
Remedial Actions		As required
	Repair erosion	

Table 3– Recommended operation and Maintenance requirements for Existing Ditch Course

David Allbright
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For and on behalf of Banners Gate Ltd

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