

Haste Hill Nurseries, Fore Street, Eastcote, HA5 2ND

Our ref: 0166/FORHHN/FRA

FLOOD RISK ASSESSMENT

PREPARED ON BEHALF OF THE APPLICANT GILES HAYWARD

VERSION: 1.1

HASTE HILL NURSERIES, FORE STREET, EASTCOTE

FLOOD RISK ASSESSMENT

1. SITE: PROPOSAL AND CONSTRAINTS

The application proposes the erection of two replacement storage sheds representing a net increase of 48m² floorspace.



Tractor Store



Logs Store

The application site forms part of a larger site measuring about 4450 m² on the west side of Fore Street, north of the junction with Chippenham Close. The site has a long history of use as a nursery garden which has been confirmed as lawful by virtue of a Certificate of Lawful Development for an Existing Development granted in 2019 under application 71072/APP/2019/3527.

The site comprises the following:

- barn used for storage of horticultural equipment and general operation of nursery,
- barn used for storage of horticultural equipment, logs and general operation of nursery,
- hard standing to form customer parking,
- tarmac road for general operation of nursery,
- shop area with concrete base and timber frame used for retail sales,
- septic tank,
- large double span polytunnel (used for growing ornamental plants and herbs) and,
- two small polytunnels used for growing ornamental crops

Their products are sold to visiting members of the public and used extensively in the applicant's landscaping and grounds maintenance business. None of the existing buildings have gutters or down pipes so all rainwater goes straight into the ground where it falls on the site. Most of the site is unsurfaced so there is little impediment to ground infiltration.

The site is within EA Flood Risk Zone 1 where the risk of flooding is considered to be low. There are no recorded incidents of foul or surface water flooding incidents in the EA records (Appendix 2). There are no dwellings on the site which is used as a “lock-up” plant nursery and garden centre. The use falls into the category of “less vulnerable uses” where the impact of flooding to the use is similarly considered to be low.

No change of use is planned.

2. PLANNING POLICY AND GUIDANCE

Drainage strategies for developments in the London Borough of Hillingdon need to comply with the following policies on SuDS:

1. London Borough of Hillingdon Local Plan policies EM 6 and DMEI 10
2. London Plan policy 5.13 and draft New London Plan policy SI13
3. The National Planning Policy Framework (NPPF)

For planning decisions, London Plan policy 5.13 advises:

A development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the following drainage hierarchy:

1. store rainwater for later use
2. use infiltration techniques, such as porous surfaces in non-clay areas
3. attenuate rainwater in ponds or open water features for gradual release
4. attenuate rainwater by storing in tanks or sealed water features for gradual release
5. discharge rainwater direct to a watercourse
6. discharge rainwater to a surface water sewer/drain
7. discharge rainwater to the combined sewer.

The council’s website contains more specific advice in relation to minor development in recognition of the fact that, cumulatively, minor developments can affect flood risk given the increasing demand on the capacity of surface water sewers.

Small scale development can and should contribute to reducing flood risk by ensuring all hard surfacing is made permeable.

All minor development should include plans which show down pipes are connected to soakaways and or other methods of control and not the sewer.

3. PROPOSAL

Following the first principle of London Plan 5.13 and the advice on minor development, it is proposed to provide rainwater goods on each of the proposed new buildings, including down pipes. However, rather than connecting these to soakaways it is proposed to harvest the rainwater for use

FEKABOX 110

Capacity [l]	110
Connections	4 - DN110, DN50 horiz. inlets 1 - 2" vertical pump-out 1 - 2" horiz. pump-out 1 - DN40 emergency pump-out 1 - DN 50 vent
Overall dimensions [mm]	D: 620 x L: 390 x H: 600
Complete with	PVC unions and rubber coated hose for vertical or horizontal 2" outlet.
Recommended pumps	FEKA 600 MA FEKA VS/XX 550-750 MA
Operating range	From 1 to 24 mPA with head up to 9 mlt

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COMPLIANT WITH EUROPEAN
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within the nursery to irrigate seedlings and plants being raised in the polytunnels and mature plants in the open.

The drainage scheme proposes connecting the downpipes from the two replacement barns to a below ground sump from which it would be pumped directly to the double polytunnel, which is the largest on the site, and the applicant's

1,125 litre site water bowser for use elsewhere on the site to reduce the business' reliance on metred potable water. Back-up on site storage in the form of 1,000 litre IBC (tote) containers will be deployed, as necessary.



The drawing A1.5 sets out a schematic of the drainage scheme.



The applicant has a longer-term aspiration to introduce grey water harvesting on all existing and replacement buildings on the site. The scheme is currently still being designed but is likely to involve pumping from the sump to an 18,000-litre galvanised steel water tank. On-site storage is therefore scaleable from 1.23m³ to 180m³.

The current proposals are being brought forward as an interim arrangement to service the proposed replacement buildings which are urgently required as a result of the advanced dilapidation of the existing buildings.

A completed copy of the Council's Sustainable Drainage Proforma is attached as Appendix 1.

The London Sustainable Drainage Proforma

Introduction

This proforma is intended to accompany a drainage strategy prepared for a planning application where required by national or local planning policy. It should be used to summarise the key outputs from the strategy to allow assessing officers at the Lead Local Flood Authority (LLFA) to quickly assess compliance with sustainable drainage (SuDS) planning

The proforma is divided into 4 sections, which are intended to be used as follows:

1. Site and project information - Provide summary details of the development, site and drainage
2. Proposed discharge arrangement – Summarise site ground conditions to determine potential for infiltration. Select a surface water discharge method (or mix of methods) following the hierarchical approach set out in the London Plan.
3. Drainage strategy – Prioritise SuDS measures that manage runoff as close to source as possible and contribute to the four main pillars of SuDS; amenity, biodiversity, water quality and water quantity.
4. Supporting information – Provide cross references to the page or section of the drainage strategy report where the detailed information to support each element can be found. This may be more than one reference for each

Policy

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1. [London Borough of Hillingdon Local Plan policies EM 6 and DMEI 10](#)
2. [London Plan policy 5.13](#) and draft [New London Plan policy SI13](#)
3. [The National Planning Policy Framework \(NPPF\)](#)

Technical Guidance

- Post-development surface water discharge rate should be limited to greenfield runoff rates. Proposals for higher discharge rates should be agreed with the LLFA ahead of submission of the Planning Application. Clear evidence should be provided with the Planning Application to show why greenfield rates cannot be achieved.
- Greenfield runoff rate is the runoff rate from a site in its natural state, prior to any development. This should be calculated using one of the runoff estimation methods set out in Table 24.1 of CIRIA C753 The SuDS Manual.
- Attenuation storage volumes required to reduce post-development discharge rates to greenfield rates should be calculated using one of the runoff estimation methods set out in Table 24.1 of CIRIA C753 The SuDS Manual.
- 'CC' refers to climate change allowance from the current Environment Agency guidance.
- An operation and maintenance strategy for proposed SuDS measures should be submitted with the Planning Application and include the details set out in section 32.2 of CIRIA C753 The SuDS Manual. The manual should be site-specific and not directly reproduce parts of The SuDS Manual.
- Other useful sources of guidance are:
 - o [London Borough of Hillingdon sustainable drainage requirements](#)
 - o [The London Plan Sustainable Design and Construction SPG](#)
 - o [DEFRA non-statutory technical standards for sustainable drainage](#)
 - o [Environment Agency climate change guidance](#)
 - o [CIRIA C753 The SuDS Manual](#)

1. Project & Site Details	Project / Site Name (including sub-catchment / stage / phase where appropriate)	Haste Hill Nurseries, Barn replacement scheme
	Address & post code	Haste Hill Nurseries, Forge Street, Pinner HA5 2ND
	OS Grid ref. (Easting, Northing)	E 509840 N 189377
	LPA reference (if applicable)	71072/APP/2021/179
	Brief description of proposed work	Demolition of two existing barns and the erection of two replacement structures
	Total site Area	4450 m ²
	Total existing impervious area	1335 m ²
	Total proposed impervious area	1383 m ²
	Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	No
	Existing drainage connection type and location	None
	Designer Name	Ransford Stewart
	Designer Position	Director
Designer Company	Stewart M&PS Ltd	

2. Proposed Discharge Arrangements	2a. Infiltration Feasibility		
	Superficial geology classification	London Clay Formation	
	Bedrock geology classification	London Clay Formation	
	Site infiltration rate	N/A	m/s
	Depth to groundwater level	N/A	m below ground level
	Is infiltration feasible?	No	
	2b. Drainage Hierarchy		
		Feasible (Y/N)	Proposed (Y/N)
	1 store rainwater for later use	Yes	Yes
	2 use infiltration techniques, such as porous surfaces in non-clay areas	No	No
	3 attenuate rainwater in ponds or open water features for gradual release	No	No
	4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Yes	No
	5 discharge rainwater direct to a watercourse	Yes	No
	6 discharge rainwater to a surface water sewer/drain	No	No
	7 discharge rainwater to the combined sewer.	Yes	No
2c. Proposed Discharge Details			
Proposed discharge location	N/A		
Has the owner/regulator of the discharge location been consulted?	N/A		

3a. Discharge Rates & Required Storage				
	Greenfield (GF) runoff rate (l/s)	Existing discharge rate (l/s)	Required storage for GF rate (m ³)	Proposed discharge rate (l/s)
Qbar				
1 in 1				
1 in 30				
1 in 100		N/A		
1 in 100 + CC				
Climate change allowance used		40%		
3b. Principal Method of Flow Control				
3c. Proposed SuDS Measures				
	Catchment area (m ²)	Plan area (m ³)	Storage vol. (m ³)	
Rainwater harvesting	219.08		1.23 - 18.00	
Infiltration systems	0		0	
Green roofs	0	0	0	
Blue roofs	0	0	0	
Filter strips	0	0	0	
Filter drains	0	0	0	
Bioretention / tree pits	0	0	0	
Pervious pavements	0	0	0	
Swales	0	0	0	
Basins/ponds	0	0	0	
Attenuation tanks			0	
Total	219.08	0	1.23	

4a. Discharge & Drainage Strategy		Page/section of drainage report
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results		
Drainage hierarchy (2b)		
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location		N/A
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations		
Proposed SuDS measures & specifications (3b)		
4b. Other Supporting Details		Page/section of drainage report
Detailed Development Layout		Drawings A1.0 -1.4
Detailed drainage design drawings, including exceedance flow routes		Drawing A1.5
Detailed landscaping plans		N/A
Maintenance strategy		As per manufacturer's specification
Demonstration of how the proposed SuDS measures improve:		
a) water quality of the runoff?		FEKABOX Mechanical filtration
b) biodiversity?		Supports plant growing business
c) amenity?		Mitigates stagnant water ponding

