Appendix 9-4: Greenfield Runoff Modelling

REFH2 Greenfield Runoff Rates

Return period (yrs)	As-rural peak flow (m^3/s)	As-rural peak flow (l/s)
1	0.0196	19.6
2	0.0228	22.8
5	0.0338	33.8
10	0.0426	42.6
30	0.0598	59.8
50	0.0705	70.5
75	0.0807	80.7
100	0.0891	89.1
200	0.1123	112.3
1000	0.1756	175.6

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Calculated by:	Henry Lister
Site name:	Stanninghall
Site location:	Horstead

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:	52.71662° N
Longitude:	1.34374° E
Reference:	2523407665
Date:	Jun 24 2020 11:34

Runoff estimation approach FEH Statistical

Site characteristics

Total site area (ha): 43.65

Methodology

Q_{MED} estimation method:	Calculate from BFI and SAAR
BFI and SPR method:	Specify BFI manually
HOST class:	N/A
BFI / BFIHOST:	0.861
Q_{MED} (l/s):	
Q_{BAR} / Q_{MED} factor:	1.12

Hydrological characteristics

	Default	Edited
SAAR (mm):	619	619
Hydrological region:	5	5
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 30 years:	2.45	2.45
Growth curve factor 100 years:	3.56	3.56
Growth curve factor 200 years:	4.21	4.21

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):		22.35
1 in 1 year (l/s):		19.44
1 in 30 years (l/s):		54.76
1 in 100 year (l/s):		79.57
1 in 200 years (l/s):		94.1