

Greenfield runoff estimation for sites

Site name: Skimmingdish Lane
Site location: Bicester

Site coordinates
Latitude: 51.90843° N
Longitude: 1.12973° W

This is an estimation of the greenfield runoff rate limits that are needed to meet normal best practice criteria in line with Environment Agency guidance "Preliminary rainfall runoff management for developments", W5-074/A/TR1/1 rev. E (2012) and the CIRIA SUDS Manual (2007). It is not to be used for detailed design of drainage systems. It is recommended that every drainage scheme uses hydraulic modelling software to finalise volume requirements and design details before drawings are produced.

Reference: gcpppq39ke2sq / 50
Date: 12 Jan 2017

Site characteristics

Total site area	50	ha
Significant public open space	35.5	ha
Area positively drained	14.5	ha

Methodology

Greenfield runoff method	IH124
Qbar estimation method	Calculate from SPR and SAAR
SPR estimation method	Calculate from SOIL type
SOIL type	3
HOST class	N/A
SPR	0.37

Hydrological characteristics

	Default	Edited	
SAAR	622	622	mm
M5-60 Rainfall Depth	20	20	mm
'r' Ratio M5-60/M5-2 day	0.4	0.4	
FEH/FSR conversion factor	0.88	0.88	
Hydrological region	6	6	
Growth curve factor: 1 year	0.85	0.85	
Growth curve factor: 10 year	1.62	1.62	
Growth curve factor: 30 year	2.3	2.3	
Growth curve factor: 100 year	3.19	3.19	

Greenfield runoff rates

	Default	Edited	
Qbar	2.12	36.28	l/s
1 in 1 year	1.80	30.84	l/s
1 in 30 years	4.88	83.44	l/s
1 in 100 years	6.77	115.73	l/s

Please note that a minimum flow of 5 l/s applies to any site

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Reference: gcppq39ke2sq / 50
Date: 12 Jan 2017

Site characteristics

Total site area	50	ha
Significant public open space	35.5	ha
Area positively drained	14.5	ha

Methodology

Greenfield runoff method	FEH	
Qmed estimation method	Calculate from BFI and SAAR	
BFI and SPR estimation method	Calculate from dominant HOST	
HOST class	N/A	
BFI / BFIHOST	0.00	
Qmed	N/A	l/s
Qbar / Qmed Conversion Factor	N/A	

Hydrological characteristics

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Greenfield runoff rates

	Default	Edited	
Qbar	---	---	l/s
1 in 1 year	---	---	l/s
1 in 30 years	---	---	l/s
1 in 100 years	---	---	l/s

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Soil Index



Simulation

: Network - Network Details

Each individual pipe can have a different soil index associated with it. By default the global soil index will be used. For details of how this is used by Simulation to determine a Cv please see Area, PIMP, Total Area.

Typical values are listed below:-

Soil Index	General Description	Soil Type
0.150	<ul style="list-style-type: none"> i) Well drained permeable sandy or loamy soils and shallower analogues over highly permeable limestone, chalk, sandstone or related drifts. ii) Earthy peat soil drained by dikes and pumps. iii) Less permeable soils in valleys. 	1
0.300	<ul style="list-style-type: none"> i) Very permeable soils with shallow ground-water. ii) Permeable soils over rock or frangipani, commonly on slopes in western Britain associated with smaller areas of less permeable wet soils. iii) Moderately permeable soils, some with slowly permeable subsoils. 	2
0.400	<ul style="list-style-type: none"> i) Relatively impermeable soils in boulder and sedimentary clays and in alluvium, especially in eastern England. ii) Permeable soils with shallow ground-water in low lying areas. iii) Mixed areas of permeable and impermeable soils in approximately equal proportions. 	3
0.450	<ul style="list-style-type: none"> i) Clayey, or loamy over clayey soils with an impermeable layer at shallow depth. 	4
0.500	<ul style="list-style-type: none"> Soils of the wet upland i) With peaty or humose surface horizons and impermeable layers at shallow depth. ii) Deep raw peat associated with gentle upland slopes or basin sites. iii) Bare rock cliffs and screes. iv) Shallow, permeable rocky soil on steep slopes. 	5

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Region	QBAR	Q (2yrs)	Q (1 yrs)	Q (30 yrs)	Q (100 yrs)
Region 1	6.8	6.2	5.8	12.8	16.8
Region 2	6.8	6.2	5.9	12.8	17.8
Region 3	6.8	6.4	5.8	11.9	14.1
Region 4	6.8	6.1	5.6	13.3	17.4
Region 5	6.8	6.1	5.9	16.3	24.1
Region 6/Region 7	6.8	6.0	5.8	15.3	21.6
Region 8	6.8	6.0	5.3	12.9	16.4
Region 9	6.8	6.3	6.0	11.9	14.8
Region 10	6.8	6.3	5.9	11.5	14.1
Ireland National	6.8	6.5	5.8	10.8	12.5
Ireland East	6.8	6.5	5.8	11.0	12.9
Ireland South	6.8	6.5	5.8	10.8	12.5
Ireland West	6.8	6.5	5.8	10.5	12.1
Ireland Greater Dublin	6.8	6.2	5.8	14.4	17.7

