

Calculated by:	Henry Lister
Site name:	Soils Wash Plant
Site location:	Cavenham

This is an estimation of the storage volume requirements that are needed 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). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

## Site Details

Latitude:	52.31488° N
Longitude:	0.57923° E
Reference:	2430232785
Date:	Dec 13 2023 17:07

## Site characteristics

Total site area (ha):	0.84
Significant public open space (ha):	0
Area positively drained (ha):	0.84
Impermeable area (ha):	0.84
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.84
Net impermeable area for storage volume design (ha):	0.84
Pervious area contribution to runoff (%):	30

\* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of  $Q_{BAR}$  and other flow rates will have been reduced accordingly.

## Methodology

esti	IH124
$Q_{BAR}$ estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

## Soil characteristics

	Default	Edited
SOIL type:	1	1
SPR:	0.1	0.1

## Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	89.32
FEH / FSR conversion factor:	1.16	1.16
SAAR (mm):	567	567
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydrological region:	5	5
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 10 year:	1.65	1.65
Growth curve factor 30 year:	2.45	2.45
Growth curve factor 100 years:	3.56	3.56
$Q_{BAR}$ for total site area (l/s):	0.11	0.11
$Q_{BAR}$ for net site area (l/s):	0.11	0.11

## Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach:	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	2

## Site discharge rates

	Default	Edited
1 in 1 year (l/s):	2	2
1 in 30 years (l/s):	2	2
1 in 100 year (l/s):	2	2

## Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	899	899
Long term storage 1/100 years (m³):	0	0
Total storage 1/100 years (m³):	899	899

estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.