

16 December 2025

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Titchfield, Hants,
PO14 4BU

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3 South Street
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FAO Caroline Jezeph

Ref: 25104

Land at Witt Road, Winterslow, SP5 1PL Foul and Surface Water Drainage Proposals

Dear Sirs

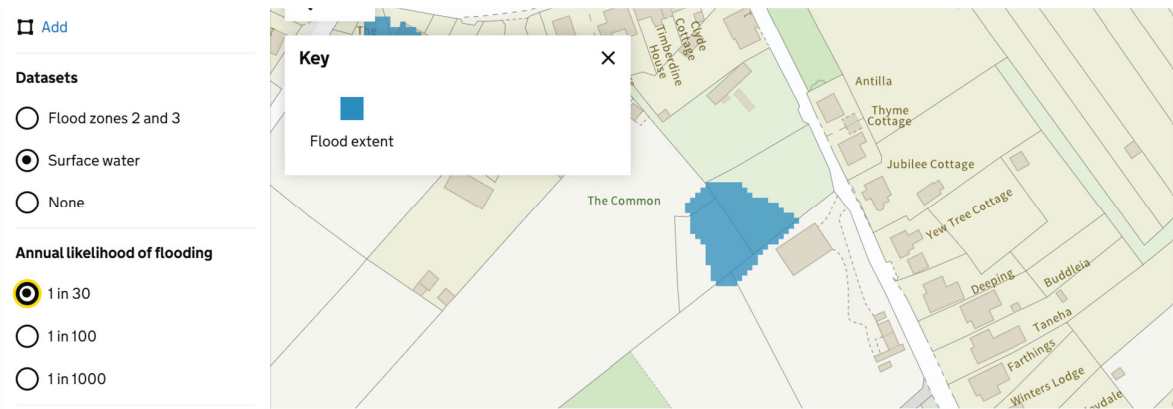
Further to your instructions we have reviewed the flood risk in relation to an outline planning application for 2 dwellings in Witt Road, Winterslow.

The site is at low risk of tidal and fluvial flooding

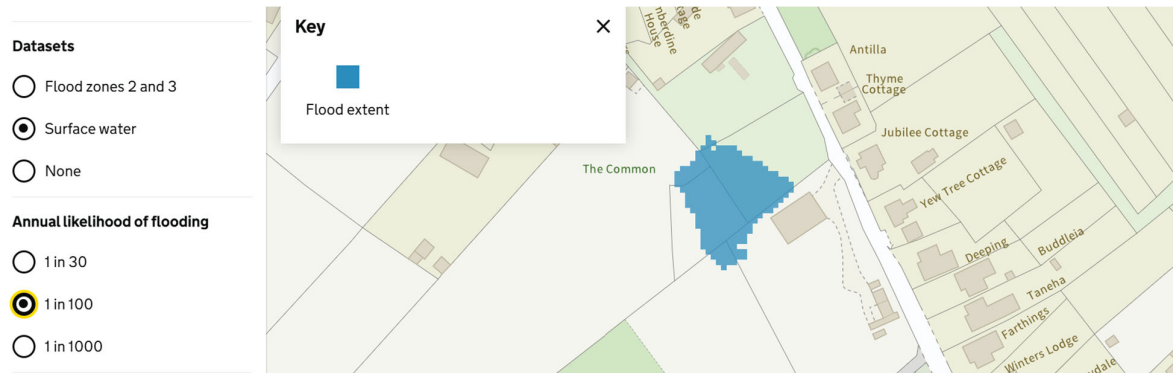


Tidal/fluvial flood risk <0.1%AEP

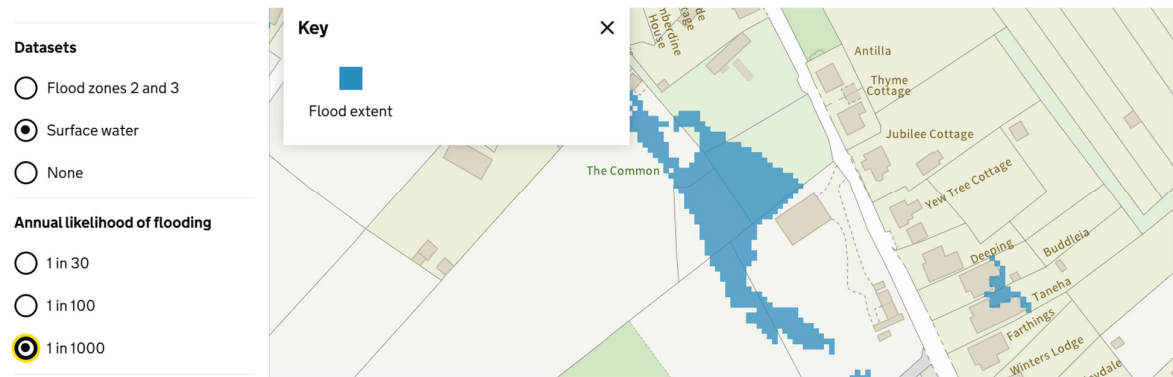
The current EA surface water flood mapping indicates surface water flood risk to the southern corner of the site:



Surface water 3.3%AEP

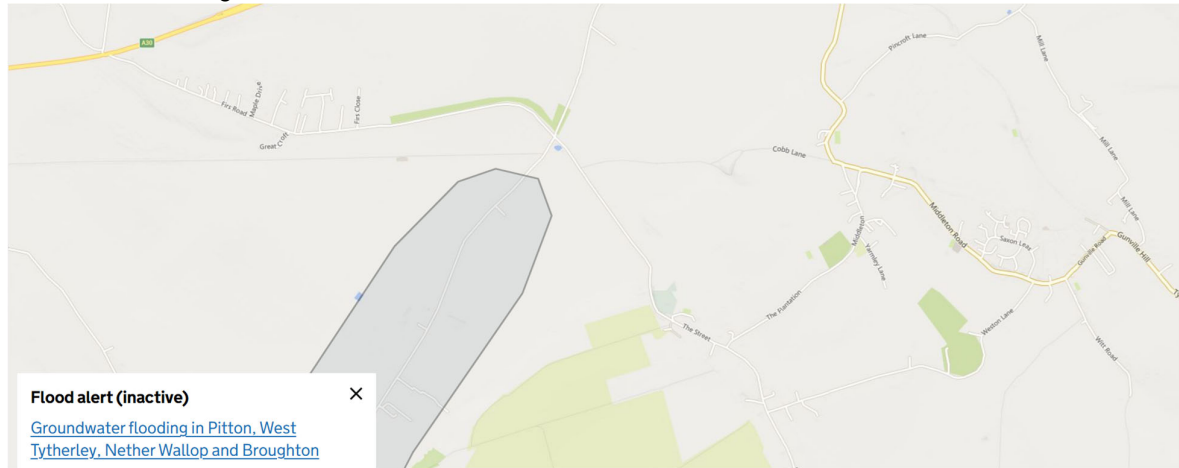


Surface water 1%AEP



Surface water 0.1%AEP

The site is not in a groundwater flood risk area:



We have previously looked at the site immediately to the north. The western boundary to the site is located at the base of a dry valley (bourne). Surface water flows can occur along the valley base from exceptional rainfall events. The catchment for this comprises Chalk downland to the north of the site totalling some 122 Ha, the catchment boundary is indicated on the attached plan. The catchment comprises 75% open farm land and 25% residential properties. An examination of aerial photography indicates a low density of housing with about 60% softscape and some 40% hardscape. The effective catchment is therefore:

Softscape	75% + (0.6 x 25%)	=90%
Hardscape	0.4 x 25%	=10%

Catchment flow rates have been determined using UKsuds IH124 toolkit. The default Surface Percentage Runoff (SPR) for the catchment is 0.1 and SOIL value 0.15. The associated default flow rate is 67.2 l/sec for 1 in 100 years (1% AEP). For 0.1%AEP the region 7 growth curve factor is 5.19 and associated default 0.1%AEP flow rate 109.3 l/sec.

To take account of the urban component of the catchment the effective SPR needs to be considered:

Softscape	90% x 0.1	=0.09
Hardscape	10% x 1.0 (100%runoff)	=0.10
	Effective SPR	=0.19
	Effective SOIL	=0.218

Flow modification factor $(0.218/0.15)^{2.17} = 2.25$

Modified 1% AEP flow	67.2 x 2.25	=151 l/sec
Modified 0.1%AEP flow	109.3 x 2.25	=246 l/sec

Modified 1%AEP + 40% Climate change flow =211 l/sec

The existing 'channel' profile and valley gradient have been determined from Kents Oak Ltd topographic survey LDS/13800-TP1 and has been used to determine the 'channel' flow capacity for various depths on the attached existing channel assessment. This indicates that a depth of 0.1m on the valley floor would occur from a flow rate of 1,040 l/sec (1.04 m³/sec) hence for either 1%AEP+CC or 0.1%AEP events flow depth would be substantially less than 0.1m.

At present there is no formal channel at the base of the valley. A second assessment has been made for provision of a straight earth channel 0.5m wide at the base, 0.4m deep and with side slopes of 1:2 along the western site boundary in the location shown on drawing ACC25104-01, forming an extension of that provided on the site immediately to the north. This shows that at a depth of 0.2m in the channel a flow rate

of 180 l/sec would be supported and at 0.3m depth a flow rate of 420 l/sec would be supported, and when full (0.4m deep) a flow rate of 780 l/sec would be supported. A channel of this size is more than adequate to support 1%AEP+CC or 0.1% AEP flows.

Provision of such a channel would contain the design flood flows and safeguard the land beyond the channel from flooding. A smaller channel width would also be capable of supporting the design flow eg wider base but short vertical masonry channel walls etc.

The only flood risk within the site is surface water. National Planning Policy Guidance was recently changed, particularly NPPG 7-027-202208025 revision 17-09-2025 relating to NPPF paragraph 175 Sequential Test. The NPPG states that *"Where a site specific FRA demonstrates clearly that the proposed layout, design and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development (therefore addressing the risk identified e.g. by environment agency flood risk mapping), without increasing flood risk elsewhere, then the sequential test need not be applied."*

Looking at the EA 0.1%AEP low surface water flood risk extents this appears to correlate to the 110.8m AOD contour on the site topographic survey. The proposed minimum FFL of 111.4m AOD would avoid the surface water flood risk.

NPPG-7-027-202208025 revision 17-09-2025 is met, the proposed development would be safe and application of the sequential test is not required.

Drainage

A BGS infiltration SUDS georeport has been obtained and is attached. This demonstrates a high permeability Chalk bedrock at the site and a groundwater level indicated to be more than 5m below ground level throughout the year. The site is therefore highly compatible with infiltration SUDS and soakaways would inherently work. An outline design illustration is shown on ACC25104-01 and the calculations attached.

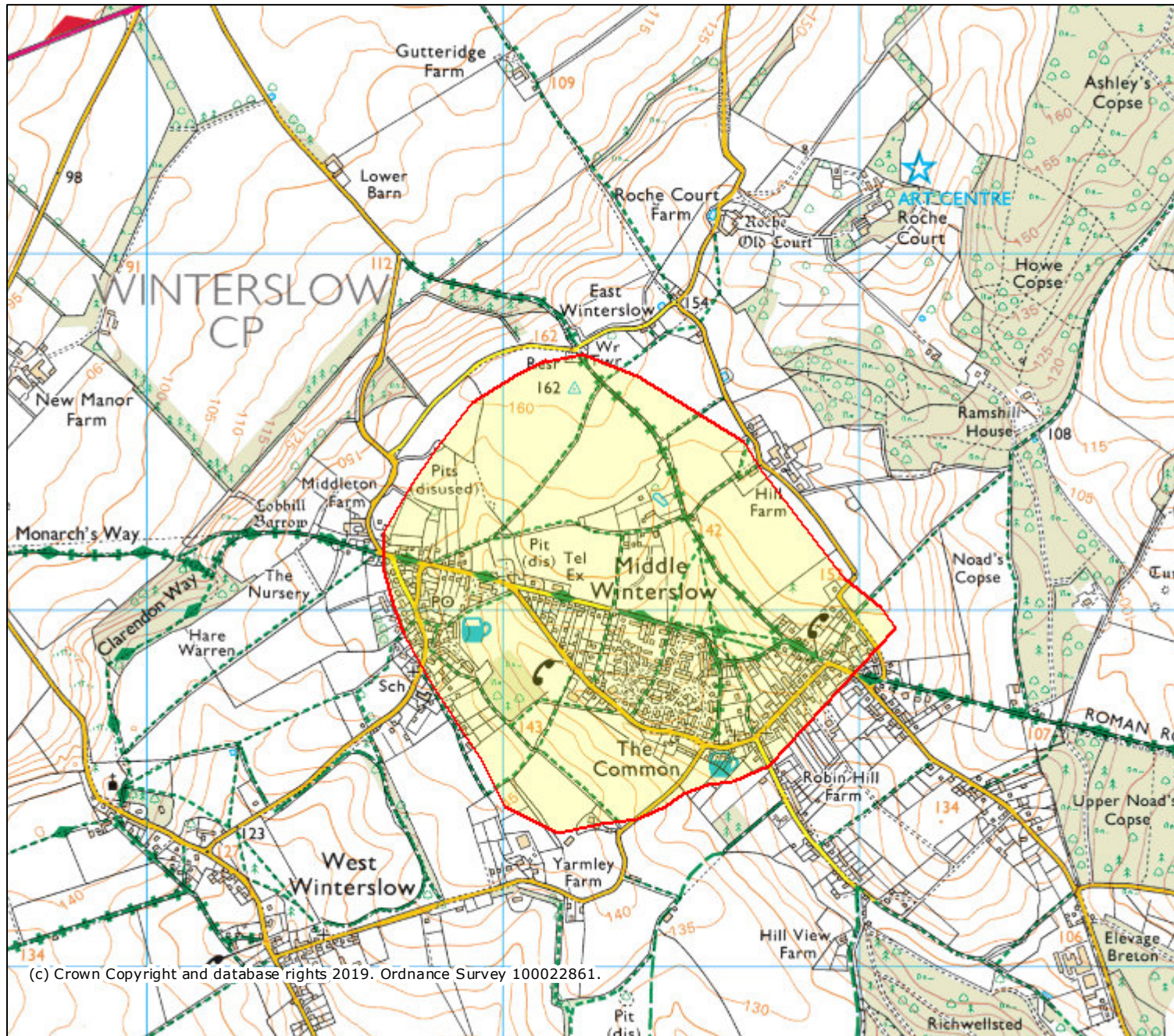
There is a public Foul Water (FW) sewer located in Witt Road adjacent the site. This is operated by Southern Water. Since 1st April 2018 water companies now charge a fixed infrastructure charge per plot which all developers must pay. If network upgrades are required Southern Water deliver these using the monies collected from infrastructure charges they collect. Southern Water also changed their FW network flow modelling on 1st April 2018. It is proposed to connect to the foul drainage network of the adjacent site to effect discharge to the public sewer. The outline arrangement for the site and existing foul drainage to the existing site is shown on ACC25104-01

Yours Sincerely,

Aqua Callidus Consulting Ltd

Andy Traves

Enc. BGS suds infiltration georeport
Catchment schematic
UKsuds IH124 base assessment
Kents Oak Ltd survey drawing LDS/13800-TP1
Channel capacity assessments (existing and 'proposed')
ACC25104-01
Illustrative soakaway calculation



Projection = OSGB36

xmin = 421500

ymin = 131900

xmax = 427000

ymax = 134600

Map produced by MAGIC on 12 July, 2019.

Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Calculated by:

Site name:

Site location:

Site coordinates

Latitude:

Longitude:

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 SuDS Manual, C753 (Ciria, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Reference:

Date:

Methodology

IH124

Site characteristics

Total site area (ha)	122
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Methodology

Qbar estimation method	Calculate from SPR and SAAR
SPR estimation method	Calculate from SOIL type

	Default	Edited
SOIL type	1	1
HOST class	---	---
SPR/SPRHOST	0.1	0.1

Hydrological characteristics

	Default	Edited
SAAR (mm)	779	779
Hydrological region	7	7
Growth curve factor: 1 year	0.85	0.85
Growth curve factor: 30 year	2.3	2.3
Growth curve factor: 100 year	3.19	3.19

Notes:

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

Normally limiting discharge rates which are less than 2.0 l/s/ha are set at 2.0 l/s/ha.

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

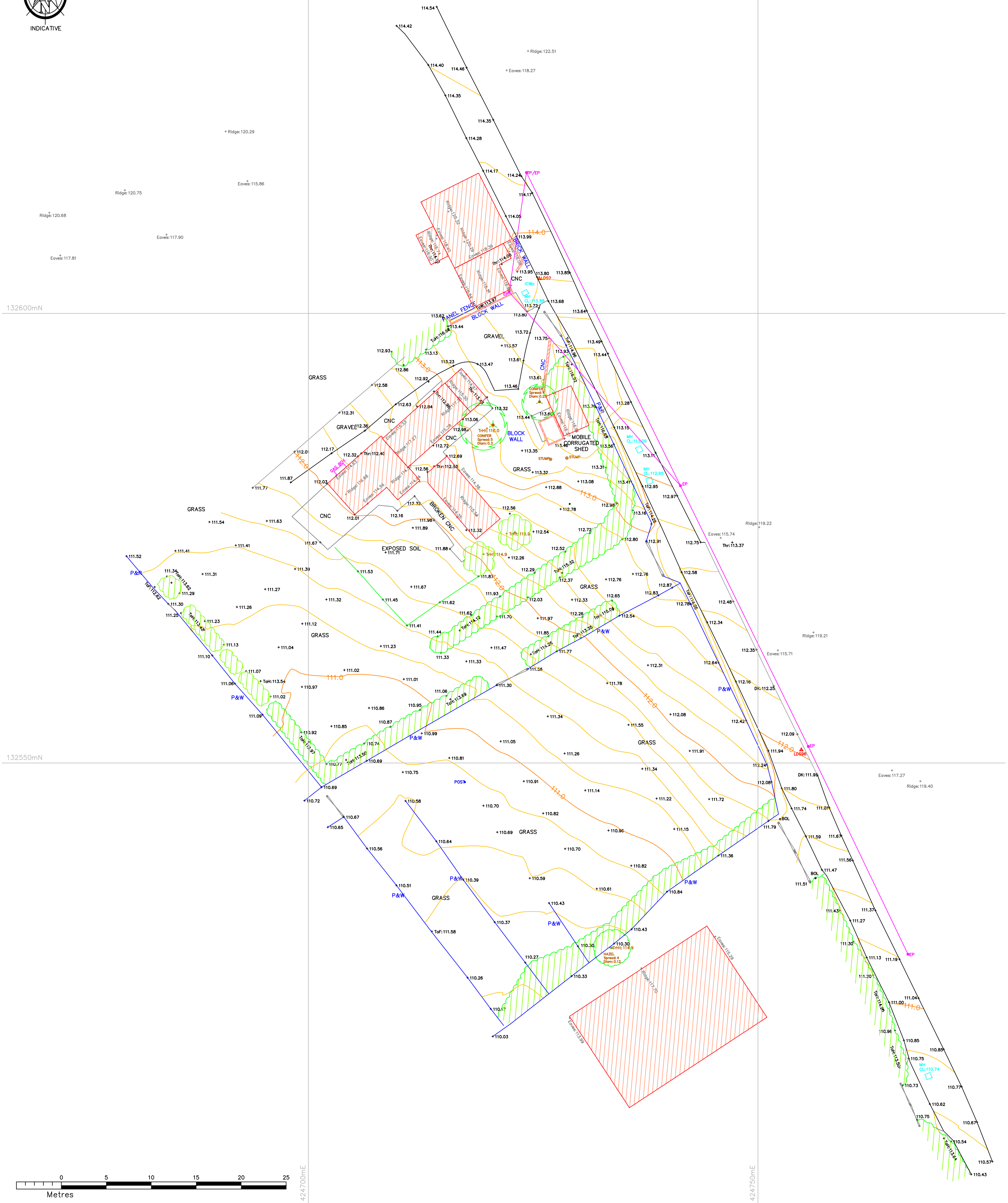
(3) Is $SPR/SPRHOST \leq 0.3$?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite may be a requirement for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Qbar (l/s)	21.06	21.06
1 in 1 year (l/s)	17.9	17.9
1 in 30 years (l/s)	48.43	48.43
1 in 100 years (l/s)	67.17	67.17

CO-ORDINATE SCHEDULE: 13800				
STATION	EASTING	NORTHING	HEIGHT	REMARKS
LDS02	424725.676	132603.871	113.810	PK SURVEY
LDS96	424754.824	132551.457	112.050	PK SURVEY NAIL

[illegible][illegible]

Features:

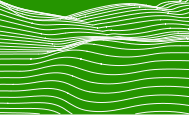
- Overhead Wire
- Drainage Information (globe diameter & flow direction)
- Tactile Paving
- Trees
 - Coniferous
 - Deciduous
 - Dead
- Cig Slopes: Arrow indicates direction of downward slope



LDS

Land
Development
Services
Ltd

SINCE 1969



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Tel: 01722 338232

E-Mail: peter@lds-survey.co.uk

at the Rectory House, Fowler's Road, Salisbury, Wilts. SP1

Client:	
KENTS OAK LTD.	
Drawing Title:	
TOPOGRAPHIC SURVEY	
Project:	
LAND ADJ. 1 WITT ROAD WINTERSLOW	
The horizontal & vertical control of this survey is based on Ordnance Survey grid as translated from GPS co-ordinates using the OSTN02 & OSGM02 transformation as supplied by OS. We have applied a reverse scale factor to maintain true ground distances. Vertical values may differ from existing OS benchmarks in the vicinity which should be disregarded. All levels should be taken from LDS survey station	
Scale:	Drawing No:
1: 250	LDS/13800-TP1
Plotted on A1	@Land Development Services Ltd.

Date: 19/07/2019

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Project No 1972
Project Witt Road
Channel ref existing flood flow 'channel'

Trapezoidal channel

Channel depth (m) 0.40
Bed width (m) 11.00
Bank to bank width (m) 31.00
Gradient (S_0) 0.0200
Channel nature Floodplain high grass pasture
Manning N value min = 0.030 Norm = 0.035 max = 0.050

Depth (m)	Area (m ²)	contact perimeter (m)	S_0	n min			n norm			n max		
				Manning n	Flow capacity (m ³ /sec)	Flow velocity (m/sec)	Manning n	Flow capacity (m ³ /sec)	Flow velocity (m/sec)	Manning n	Flow capacity (m ³ /sec)	Flow velocity (m/sec)
0.10	1.35	16.00	0.020	0.030	1.21	0.90	0.035	1.04	0.77	0.050	0.73	0.54
0.20	3.20	21.01	0.020	0.030	4.28	1.34	0.035	3.66	1.15	0.050	2.57	0.80
0.30	5.55	26.01	0.020	0.030	9.29	1.67	0.035	7.97	1.44	0.050	5.58	1.00
0.40	8.40	31.02	0.020	0.030	16.50	1.96	0.035	14.15	1.68	0.050	9.90	1.18
0.50	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.60	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.70	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.80	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.90	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.00	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.10	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.20	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.30	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.40	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.50	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.60	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.70	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.80	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.90	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.00	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.10	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.20	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.30	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.40	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.50	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.60	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.70	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.80	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.90	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
3.00	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
				Q_{max}			Q_{max}			Q_{max}		
				16.50			14.15			9.90		

Date: 19/07/2019

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Project No 1972
Project Witt Road
Channel ref new channel

Trapezoidal channel

Channel depth (m) 0.40
Bed width (m) 0.50
Bank to bank width (m) 2.10
Gradient (S_0) 0.0200
Channel nature Floodplain high grass pasture
Manning N value min = 0.030 Norm = 0.035 max = 0.050

Depth (m)	Area (m ²)	contact perimeter (m)	S_0	n min			n norm			n max		
				Manning n	Flow capacity (m ³ /sec)	Flow velocity (m/sec)	Manning n	Flow capacity (m ³ /sec)	Flow velocity (m/sec)	Manning n	Flow capacity (m ³ /sec)	Flow velocity (m/sec)
0.10	0.07	0.95	0.020	0.030	0.06	0.82	0.035	0.05	0.71	0.050	0.03	0.49
0.20	0.18	1.39	0.020	0.030	0.22	1.20	0.035	0.18	1.03	0.050	0.13	0.72
0.30	0.33	1.84	0.020	0.030	0.49	1.49	0.035	0.42	1.28	0.050	0.29	0.89
0.40	0.52	2.29	0.020	0.030	0.91	1.75	0.035	0.78	1.50	0.050	0.54	1.05
0.50	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.60	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.70	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.80	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
0.90	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.00	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.10	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.20	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.30	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.40	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.50	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.60	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.70	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.80	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
1.90	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.00	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.10	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.20	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.30	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.40	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.50	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.60	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.70	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.80	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
2.90	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
3.00	N/A	N/A	0.020	0.030	N/A	N/A	0.035	N/A	N/A	0.050	N/A	N/A
				Q_{max}			Q_{max}			Q_{max}		
				0.91			0.78			0.54		

Date: 16/12/2025

Project No.: 25104
Project Title: Witt Road

Stone Filled or Geocellular Soakaway Assessment to BRE Digest 365 (2016)

Site Location: Avon
 $r = 0.35$ (range 0.12 to 0.45)
Drained Area = 100 m²
Design storm 1 in = 100 year
Runoff volume uplift = 45 % for climate change & urban creep

Catchment ID: SA1 & Sa2
Urban Creep: 10 %

Site Considerations

Where determined, what is the depth to highest seasonal groundwater level (GWL) from surface 3.00 m
How far is or will it be to the closest building to the proposed soakaway edge? 5.00 m
Is the soakaway far enough from drainage mounds/fields or other soakaways etc to avoid impact? Yes
What Source Protection Zone (SPZ) is the proposed soakaway located in? None
What is known and proposed about potential contaminated ground on the site? EA/LPA accept infiltration
What usage forms the soakaway catchment? Roof water only

Technical Assessment

Pit Length $L_x = 4.50$ m
Pit Length $L_y = 2.00$ m
Depth surface GL to pipe IL = 0.70 m
Depth pipe IL to base = 0.80 m
(min 30%) % Void in fill = 95 %

TOTAL STORAGE AVAILABLE 6.87 m³
Effective soakage area $a_{50} = 5.20$ m²
Time to drain full to half full = 2.8 hours

Soil Filtration Rate = 4.05E-05 m/s M5-60 Rainfall = 20 mm

Storm Duration	5 min	10 min	15 min	30 min	1 hr	2 hr	4 hr	6 hr	10 hr	24 hr
(secs)	300	600	900	1800	3600	7200	14400	21600	36000	86400
$r = 0.35$ Value Z1	0.36	0.51	0.62	0.79	1.00	1.22	1.50	1.69	1.95	2.48
Rainfall M5 (mm)	7.1	10.1	12.3	15.7	20.0	24.5	29.9	33.8	38.9	49.6
M100/M5 gf Value Z2	1.84	1.91	1.95	2.00	2.03	2.01	1.97	1.94	1.90	1.81
Rainfall M100 (mm)	13.1	19.4	24.0	31.4	40.6	49.2	59.0	65.6	73.9	89.9
with climate uplift (mm)	19.0	28.1	34.8	45.5	58.9	71.4	85.5	95.1	107.2	130.4
RUNOFF (m ³)	2.09	3.09	3.83	5.01	6.48	7.85	9.41	10.46	11.79	14.34
No soakage depth (m)	0.24	0.36	0.45	0.58	0.75	0.80	0.80	0.80	0.80	0.80
SOAKAGE (m ³)	0.02	0.06	0.11	0.28	0.71	1.52	3.03	4.55	7.58	18.20
Req'd STORAGE (m ³)	2.07	3.03	3.72	4.73	5.76	6.33	6.37	5.91	4.21	0.00
	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass

Overall Assessment

Soakaway base elevation above seasonal high GWL 1.50 m pass
Will the soakaway drain from full to half full in 24 hours or less? Yes pass
Does the soakaway provide sufficient storage? Yes pass