

[REDACTED]

From: Amanda Scholes on behalf of Planning.Responses
Sent: 03 January 2019 08:39
To: Planning Scanning
Subject: FW: Y/92/17/OUT
Attachments: Surface Water Drainage Submissions Checklist 191218.pdf

From: David Easton
Sent: 02 January 2019 13:04
To: Planning.Responses
Subject: FW: Y/92/17/OUT

Please upload as a consultation response from drainage.

From: Laura Gibbons
Sent: 02 January 2019 12:08
To: David Easton [REDACTED]
Subject: Y/92/17/OUT

Hi David,

My further comments based on the latest supplied drainage information are as follows:

The applicant is conducting winter groundwater monitoring and infiltration test results at previously agreed locations. Based on these results the potential utilisation of infiltration will be further reviewed and the detailed design of the surface water drainage scheme will be progressed. The latest drainage documents identify the aim to use permeable paving on roads/ parking areas which are not to be adopted, along with the use of shallow soakaways in back gardens and infiltrating ponds. If a discharge to ordinary watercourse is required this will be restricted to QBar of the predeveloped site.

I am therefore happy that the outline drainage strategy complies with the hierarchy for sustainable drainage and that sufficient treatment of surface water will be provided. I have attached our surface water drainage checklist which explains the level of detail required in a submission to discharge the surface water drainage conditions.

Kind Regards,

Laura Gibbons, MEng, GMICE
Engineer (Drainage & Coastal)

Laura Gibbons | Engineer (Drainage & Coastal), Engineering Services, Arun District Council | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

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Surface Water Drainage Proposal Checklist

Foreword

Before completing this checklist you are advised to read "Arun/Chichester District Council Supplementary Requirements for Surface Water Drainage Proposals".

The Surface Water Drainage Proposals Checklist is designed to clearly outline Arun/Chichester District Council's expectations and requirements for Surface Water Drainage Proposals and to expedite their review. This document should be used when completing Discharge of Conditions Applications or if the applicant wishes to avoid pre-commencement conditions relating to surface water drainage.

The Town and Country Planning Regulations now require pre-commencement conditions to have the prior agreement of the applicant regarding their wording and use. If an applicant wishes to avoid surface water drainage pre-commencement conditions they will need to submit detailed surface water drainage proposals in line with the Surface Water Drainage Proposal Checklist.

The below details are required to enable Arun/Chichester District Council to examine if proposals follow the hierarchy for sustainable drainage and if the design will adequately drain the site.

N.B. It will be difficult for Arun/Chichester District Council to undertake an appropriate and therefore timely assessment of your application if you answer "no" to any of the questions below, or if you fail to provide any of the information requested.

Checklist

Winter groundwater monitoring results included	Y/N
Winter infiltration test results included	Y/N
Period of winter groundwater monitoring	
Maximum recorded groundwater level (AOD)	
Date of infiltration testing	
Depth of infiltration testing	
Minimum infiltration rate recorded (At location of infiltrating structure)	
Plan showing the location of winter groundwater monitoring and infiltration testing included	Y/N
Method of surface water disposal proposed (Delete as appropriate)	Infiltration / Attenuation with discharge to watercourse / Attenuation with discharge to surface water sewer / Attenuation with discharge to foul sewer
If infiltration is <u>not</u> to be used: Justification supplied	Y/N
If infiltration is proposed: half drain time for 10 year event + climate change allowance (hours)	

If infiltration is proposed: half drain time for 100 year event + climate change allowance (hours)			
If infiltration is proposed: lowest base level of infiltrating structure			
If attenuation is proposed: calculations of pre-development runoff rates included *	Y/N	Rate	l/s
If attenuation is proposed: is proposed discharge rate less than or equal to pre-development rate?*	Y/N	Rate	l/s
Calculations included demonstrating that the 1 in 100 year plus climate change event can be accommodated on site**	Y/N		
If proposing an impermeable lined attenuation feature/s, calculations included demonstrating that resistance to floatation (due to groundwater levels) is achieved and catered for in the design	Y/N/Not applicable		
If alterations or discharge to an ordinary watercourse is proposed: has Ordinary Watercourse Land Drainage Consent been sought?	Y/N		
Drainage layout plans included***	Y/N		
Construction detail plans included****	Y/N		
Exceedance flow route plans included (Not required for <5 properties)	Y/N/Not applicable		

*If developing brownfield sites, please provide fully detailed plans of the existing surface water drainage arrangements on site, including impermeable areas, gullies, outfalls, pipes & diameters, manholes, etc.

**If infiltration is proposed the following factor of safety should be applied to calculations (in accordance with CIRIA R156/ CIRIA C609)

Size of Area to be Drained	Consequences of failure					
	No damage or inconvenience		Minor inconvenience, e.g. surface water on car park		Damage to buildings or structures or roads.	
	Cv=1.0	Cv=0.75	Cv=1.0	Cv=0.75	Cv=1.0	Cv=0.75
<100 m ²	1.5	2	2	3	10	13
100m ² to 1000m ²	1.5	2	3	4	10	13
>1000m ²	1.5	2	5	6.5	10	13



***Please note that drainage layout plans should include:

- All surface water drainage pipes labelled with; diameters, pipe materials, falls and invert levels.
- All infiltrating and attenuating structures (including permeable paving) labelled with; dimensions, invert and cover levels.
- All manholes labelled with; cover levels, invert levels, cover types detailed.
- All silt traps clearly labelled with sump depths.
- Control structures with outflow rates and invert levels.
- Proposed/existing levels of any areas subject to ground raising, together with suitable measures/detailed drawings for the associated managing of surface water runoff. Please note that ground raising should be avoided unless there are exceptional circumstances.

****If your proposed drainage scheme includes any of the following elements site specific construction detail plans should be supplied: pipe bed and surround; infiltrating structures; attenuating structures; manholes; catchpits/silt traps; control devices; permeable paving; headwalls.