

## Iris Osbourne

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**From:** Karen Garner on behalf of Planning.Responses  
**Sent:** 07 August 2013 13:15  
**To:** Planning Scanning; Amanda Scholes  
**Subject:** FW: Planning Consultation on: BR/106/13/  
**Attachments:** Engineers - Supplementary Guidance Notes For Surface Water Drainage Pro....pdf

Consultation response attached from Engineers.

[Karen Garner](#) | Technical Support Unit Assistant, Planning Department, [Arun District Council](#) | Location: First Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF  
Internal: 37467 | External: +44 (0) 1903 737711 | E-mail: [karen.garner@arun.gov.uk](mailto:karen.garner@arun.gov.uk)

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**From:** Thomas Callaway  
**Sent:** 07 August 2013 11:37  
**To:** Planning.Responses  
**Subject:** RE: Planning Consultation on: BR/106/13/

*Engineers comments in respect to surface water drainage:*

The applicant states that surface water will be discharged to 'main sewer'. A SuDS system (Sustainable Drainage System) must be investigated for surface water disposal, i.e. soakage structures.

Please apply standard conditions ENGD2A.

Infiltration rates for soakage structures are to be based on percolation tests undertaken in the winter period and at the location and depth of the proposed structures. The percolation tests and design must be carried out in accordance with BRE 365, CIRIA R156 or a similar approved method and cater for the 1 in 10 year storm between the invert of the entry pipe to the soakaway, and the base of the structure. It must also have provision to ensure that there is capacity in the system to contain below ground level the 1 in 100 year event plus 30% on stored volumes, as an allowance for climate change. Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded annual groundwater level identified in that location.

Any SuDS or soakaway design must include adequate groundwater monitoring data to determine the highest winter groundwater table in support of the design. The applicant is advised to discuss the extent of groundwater monitoring with the Council's Engineers. Supplementary guidance notes are also enclosed for information.

Regards

Tom Callaway

[Thomas Callaway](#) | Drainage & Coastal Engineer, Engineering Services, [Arun District Council](#) | Location: Second Floor, Arun Civic Centre, Maltravers Road, Littlehampton, BN17 5LF

Internal: 37818 | External: +44 (0) 1903 737818 | Fax: +44 (0) 1903 716019 | E-mail: [Thomas.Callaway@arun.gov.uk](mailto:Thomas.Callaway@arun.gov.uk)

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**From:** [planning.responses@arun.gov.uk](mailto:planning.responses@arun.gov.uk) [<mailto:planning.responses@arun.gov.uk>]  
**Sent:** 17 July 2013 13:01  
**To:** Brian Holland  
**Subject:** Planning Consultation on: BR/106/13/

To: **Engineering Services Manager**

**NOTIFICATION FROM ARUN DISTRICT COUNCIL**  
**Town & Country Planning Act 1990 (as amended)**  
**Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended)**  
**Planning Permission**  
**APPLICATION**                      **BR/106/13/**  
**NO:**  
  
**Registered:**                      12th July  
                                                 2013  
**Site Address:**                      1 Arnhem Road Bognor Regis PO21 5LB  
  
**Grid Reference:**                      492748 100286  
**Description of**                      Removal of double garage and replace with detached 3 bed  
**Works:**                              dwelling

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The Council have received the above planning application. I shall be pleased to receive any observations you may wish to make.

**[Click here to view the application details](#)**

**Should you have any comments to make, these should be sent by replying to this email by 15-AUG-13.**

You can also monitor the progress of this application through the Council web site: **[www.arun.gov.uk/planning](http://www.arun.gov.uk/planning)**

**Please be aware that any comments you may make will be available on our website so please do not insert personal details or signatures on your reply.**

In the absence of a reply within the period stated, I shall assume that you have no observations to make.

The application will be determined having regard to the development plan policies (if any are relevant) and other material considerations. The development plan can be accessed via the website as can the leaflet which deals with material planning considerations.

Should the application go to appeal the Planning Inspectorate will publish any comments made to the Council on their website: **[www.planningportal.gov.uk/planning/appeals/](http://www.planningportal.gov.uk/planning/appeals/)** but they will protect personal details.

The officer dealing with this application is Mr S Davis who can be contacted on

telephone number 01903 737874.

Regards  
Planning Officer

consultee\_email

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## Supplementary Requirements for Surface Water Drainage Proposals

*Any proposed surface water drainage scheme must consider the use of sustainable drainage principles.*

### SUDs Selection

*The design should follow the hierarchy of preference for different types of surface water drainage systems as set out in Approved Document H of the Building Regulations and the Sustainable Urban Drainage System (SUDS) Manual produced by CIRIA. This means that the developer must first consider the discharge of surface water into an infiltration device (eg. soakaway, basin, swale, permeable paving etc). If this is not achievable then attenuated flows into a watercourse at an agreed run off rate should be considered. If no suitable watercourse is available, then attenuated flows into a surface water sewer at an agreed rate is the third option. Surface water must not in any development, be discharged into the foul sewer system.*

*Proposals must include a “Surface Water Management Statement”, or a “SUDS Design Statement”. This should detail the design principles used and how the surface water will be conveyed and disposed of. This can be supported by a schematic or indicative layout. In addition, it must show the boundaries of each catchment area and specify into which component of the drainage system these areas connect.*

### Maintenance and Management

*Details of the maintenance and management of the SUDS system is to be set out in writing in a site specific maintenance manual. This manual shall include details of the financial management and arrangements for the replacement of components at the end of the manufacturers recommended design life. This document is then to be submitted as part of the planning process.*

### Infiltration Drainage Design

*Infiltration rates for soakage structures are to be based on percolation tests undertaken in the winter period and at the location and depth of the proposed structures. The percolation tests and design must be carried out in accordance with BRE 365, CIRIA R156 or a similar approved method and cater for the 1 in 10 year storm between the invert of the entry pipe to the soakaway, and the base of the structure. It must also have provision to ensure that there is capacity in the system to contain below ground level the 1 in 100 year event plus 30% on stored volumes, as an allowance for climate change.. Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded annual groundwater level identified in that location.*

*Any SUDS or soakaway design must include adequate groundwater monitoring data to determine the highest winter groundwater table in support of the design. Residential developments in excess of five properties will require ground water monitoring to be carried out between October and March inclusive. The extent of monitoring required for smaller developments will be subject to agreement with the Council's Engineers.*

### *Controlled Discharge*

*Discharge to a watercourse or surface water sewer must be restricted to an agreed rate by means of a controlled outflow. The greenfield runoff can be derived from IH124 or similar, and will be used to estimate the correct flow for the development area. Any storage designs must be submitted with groundwater monitoring data where applicable. Storage areas are preferred to be in an 'open' form ie. ponds, etc, over the use of underground tanks.*

### *Flow Routes and Exceedance Routes*

*Flow routes through the development must be demonstrated as a first stage in the design process, demonstrating how water will travel at or near the surface for three types of flow:*

#### *1. Low flow routes*

*Once surface water runoff has been collected, cleaned and controlled in source control features it will either be stored where it fell as rain in permeable pavement, or flow onward to local storage structures. The day-to-day flows from these features should travel in low flow channels through the development in a controlled way contributing to landscape quality.*

#### *2. Overflows*

*In the event of local blockages or surcharge a simple overflow arrangement should allow water to bypass the obstruction and return to the management train sequence until conditions return to normal.*

#### *3. Exceedance routes*

*When SUDS are overwhelmed by exceptional rainfall, then exceedance routes are required to protect people and property, by providing unobstructed overland flow routes from the development and should be considered for all drainage schemes. The SUDS design must demonstrate that flow routes have been considered at each design stage to take into account the effect of proposed development on the natural flow pattern for the site. Exceedance routes should also be protected from future changes in land use.*

### *Culverting a Watercourse*

*Culverting (piping) of a watercourse is not advised unless there is no other alternative, as culverting can lead to an unacceptable loss of habitat, reduced flood storage volume, reduced flow capacity, and increased difficulty in future maintenance. Culverting can only take place with consent from the Lead Local Flood Authority (West Sussex County Council) or its agent (Arun District*

*Council). If access is required across a watercourse, then a single continuous spanning bridge is preferred, in order to maintain the capacity of the watercourse. Any structure should be as short as reasonably possible in terms of its length along the watercourse, in order to maintain good access for future maintenance.*

*References:*

*CIRIA*

C697 The SUDs Manual

Woods Ballard B; Kellagher R et al

ISBN: 978-0-86017-697-8, 2007

*Centre for Ecology and Hydrology*

Flood Estimation for Small Catchments - IH Report 124

D C W Marshall & A C Bayliss

ISBN: 0948540621, 1994

Building Research Establishment,

Soakaway Design – Digest 365 (BRE 365)

ISBN: 1 86081 604 5, 1991

The Building Regulations 2000

Drainage and waste disposal

Approved document H

ISBN: 1-859462-08-1

*CIRIA*

R156 Infiltration Drainage – Manual of Good Practice

Roger Bettess

ISBN: 0 86017 457 3