



This guttering requirement is necessary for plot #2 to maintain the integrity of its rear Soakaway S/A#2. Separate the front roof area, which drains into the front Permeable Paved Parking and Driveway from the side roof area, which drains into the rear garden soakaway. Deepflow or Ogee guttering types will be suitable to ensure adequate flow rates to RWP's.

As detailed from the British Geological Survey, the Superficial Geological ground conditions here indicates River Terrace Deposits of sand, silt and clay over Bedrock of the Lambeth Group. The bedrock was not encountered in either the Groundwater Monitoring BoreHoles or the Percolation Test Trial Pits.

In mid December a second BoreHole was augered to a depth of 1550mm below ground level, as groundwater monitoring point GWP#2. This borehole was left open but covered over with a concrete slab to minimise vandalism. Groundwater levels were monitored on a weekly basis from mid December 2020 to end February 2021. During the monitoring period, the highest level of groundwater of 780mm below ground level at 7.439 AOD, was recorded on 31st January 2021. A second highest level of groundwater was recorded on 29th December 2020, after "Storm Bella", at 855mm below ground level at 7.364 AOD. These to inform the use of infiltration systems for the front access and parking areas to a typical depth of 520mm below ground level whilst still maintaining some freeboard.

The guttering on the front corner of plot #2 will need to be split and each run will need an end cap to ensure that the side roof water from plot #2 drains into the proposed new rear soakaway, and the front roof water of plot #2 drains to the permeable paving at the front ensuring the integrity of the design. This situation is necessary to maintain the 5 metre separation distance, for individual soakaways within each property, when implemented. The design ensures that there is no shared maintainable infiltration drainage resource except for the permeable paved access and parking areas, which is non-maintainable. The driveway access to the rear garage, of 64 square metres, is 'self-draining' only and has no storage feature and is thus of a reduced hydraulic depth. This separation of the impermeable roof areas, optimises the available infiltration resources whilst minimising the shared drainage maintenance.

NOTE

This drawing had been produced for discharge of planning conditions only.
All levels and details to be checked for Building Regulations approval and construction purposes.

TP#1 BRE365 Trial Pit
1300mm long x 450mm wide x 810mm deep
February 12th 2021 -- 7.262 E-06 m/s
February 18th 2021 -- 8.591 E-06 m/s
February 20th 2021 -- 7.397 E-06 m/s

The Minimum Rate used in the calculations from the three tests within the Trial Pit TP#1 was 7.262 E-06 metres / second.

A Factor of Safety of 2.0 was applied in the calculations for the design for both Soakaways.

TP#2 BRE365 Trial Pit
1050mm long x 350mm wide x 550mm deep
February 18th 2021 -- 8.801 E-06 m/s
February 20th 2021 -- 8.055 E-06 m/s
February 21st 2021 -- 6.447 E-06 m/s

The Minimum Rate used in the calculations from the three tests within the Trial Pit TP#2 was 6.447 E-06 metres / second.

A Factor of Safety of 3.0 was applied in the calculations for the design of the Front Permeable Paved Entrance and Parking area.

 GWP Groundwater Monitoring Test Point.

 TP Soil Infiltration Testing BRE365 Trial Pit.

 Proposed 250mm diameter surface water inspection chamber.
Osma shallow IC or similar approved.

 Proposed silt trap inspection chamber
Polypipe Ridgiform Basic or similar approved.

 Proposed Rainwater Diffuser Unit.
Polypropylene core and 2mm HDPE mesh surround.
Typical size 708mm x 354mm x 150mm deep.
Polypipe Permavoid HD Diffuser or similar approved.

— — — Proposed surface water drainage. 100mm diameter PVC pipe. Minimum fall of 1:100



Proposed Permeable Paving. Self Draining Only.
CGA Type 4 / 20 aggregate, (minimum 30% voids) with a Minimum Hydraulic Depth of 200mm. Structural Depth to be Calculated by Others.



Proposed Permeable Paving for Storage and Infiltration, CGA Type 4 / 20 aggregate, (minimum 30% voids) with a Minimum Hydraulic Depth of 400mm. Structural Depth to be Calculated by Others.



Proposed Geocellular Soakaways.
 S/A #1 to be 3m50 x 1m50 x 400mm deep.
 S/A #2 to be 4m00 x 4m00 x 400mm deep.

GL #.### Ground level at detailed items

CL #### Cover level of surface water chambers

IL #.### Invert level of surface water drains

GSL #.### Soffit (top) level of Geocell or storage & infiltration structure

GBL #.### Base level of Geocell or storage & infiltration structure

+ 5.999 All levels are to AOD unless otherwise stated

02	Permeable Structure added	RC	13-3-21
01	Original	RC	6-03-21
Rev.	Description	Drn.	Date

Project

Proposed New Build
#47 South Way
North Bersted
Bognor Regis
BN18 0PB

Client	Mr P. Nicol
Drawing Title	Surface Water Drainage

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Scale	As Shown	Drawing Original	A3
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Drawing
Number

MGS -- BE/43/20-rev02