

Surface Water Drainage Design Notes

Ground conditions here generally comprise Topsoil over River Terrace Deposits of soft to firm silty sandy clays over Upper Chalk

In practice we found 200mm of topsoil over around 200mm of made-up ground with natural soils commencing at around 600mm depth and comprising soft silty clays with some fine sand and small gravel, becoming more gravelly with depth. The Upper Chalk was not encountered in test holes that extended to 1.65m below ground level.

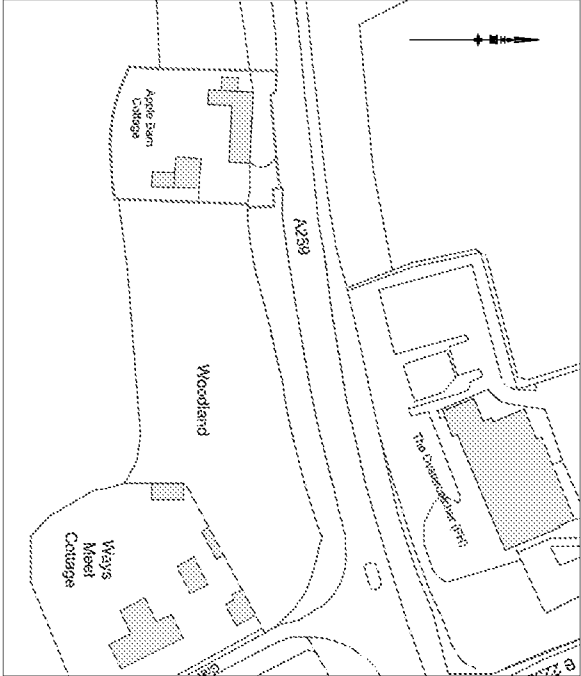
Groundwater was encountered at the base of the excavation during investigations in early March 2019 and monitoring carried out through to the end of March showed levels rising to a maximum of 914mm below ground level in mid-March 2019.

The drainage design is based on 3No. percolation tests carried out to BRE365 principles in early March 2019. An average soil infiltration rate of 1.517x10⁻⁵ m/s was obtained with higher results obtained in shallow pits and slightly lower results at depth. A factor of safety of 3.0 has been applied.

Two shallow geocellular soakaways have been designed as detailed in 400mm deep units, which will be suitable to drain the new roof areas to the dwelling without flooding on a 1 in 100 year rainfall event + 40% climate change addition.

KEY

- Proposed storm drainage
100mm Dia at min 1:100
- Proposed silt trap inspection chamber
250 dia surface water inspection chamber
- Proposed geocellular soakaway as detailed in 400mm deep geocells
- Proposed new roof areas to be drained to new front soakaway
- Proposed new roof areas to be drained to new rear soakaway
- Existing ground levels in metres AOD
- BH # Borehole/test pit locations



Location plan - scale 1:1250

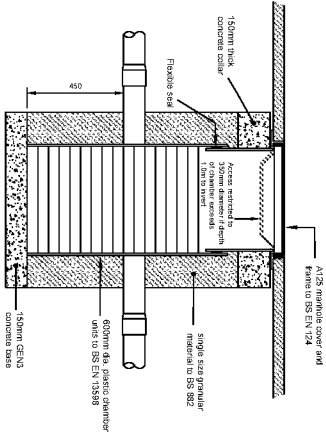
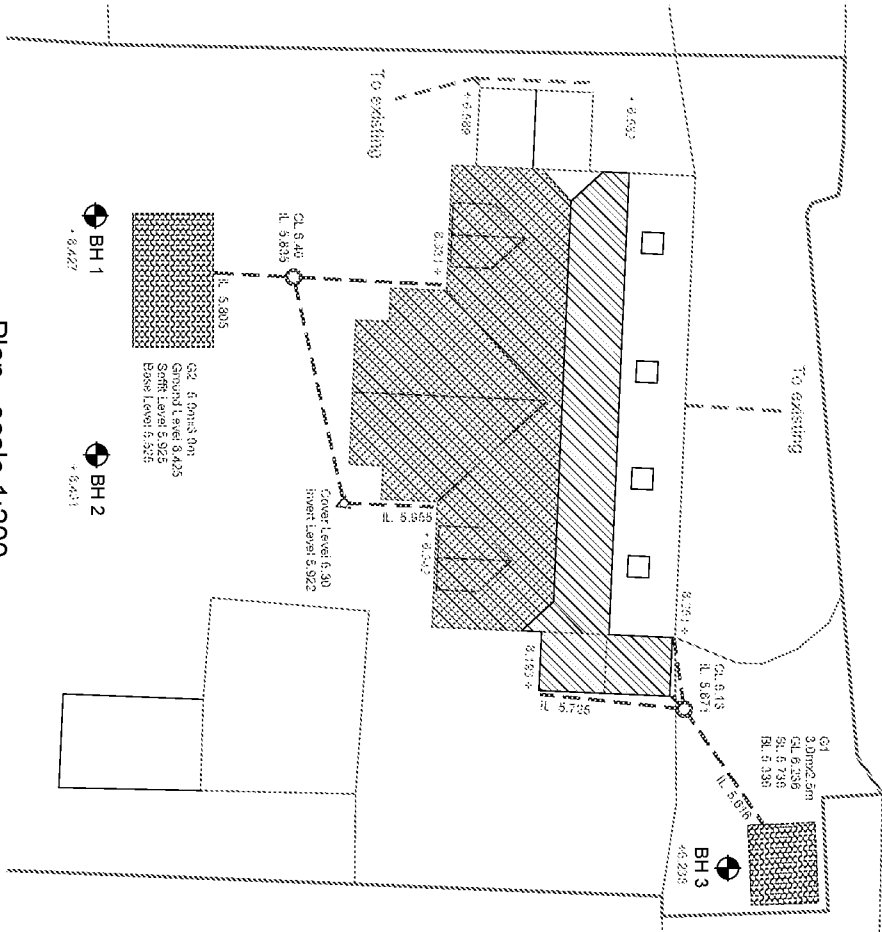
Percolation Test Results

BH 1 - Groundwater monitoring point only
BH 2 - Test 3 at 829mm depth 1.587x10⁻⁵ m/s
BH 2 - Test 3 at 829mm depth 9.450x10⁻⁵ m/s
BH 3 - Test 3 at 850mm depth 2.020x10⁻⁵ m/s
Average of all tests was 1.517x10⁻⁵ m/s
Average of shallow tests 1.804x10⁻⁵ m/s

NOTE

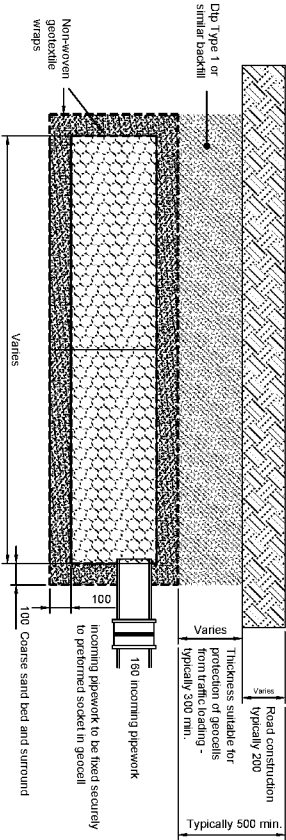
This drawing had been produced for discharge of planning conditions only. All levels and details to be checked for Building Regulations approval and construction purposes

Plan - scale 1:200



Typical Silt Trap Inspection Chamber Detail
(for use in soft landscaped areas and footways)

Construction Details



Typical Geocellular soakaway Unit
(for use in areas subject to traffic loading)

Note

Geocells located in areas subject to vehicle loading shall be suitable heavy duty units - refer to manufacturer for their recommendations

Project			
Apple Barn Cottage			
A259			
Climping			
Client			
Alex Stephens			
Drawing Title			
Surface Water Drainage			
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Scale	As shown	At original	A3
Drawing Number	2017/SK4	Revision	-