

1 Introduction & Site Description

- 1.1 This SuDS Drainage Statement has been prepared for S.D. Holdings Ltd. in conjunction with the proposed development at 51-63 Southview Road, Southwick BN42 4TS. No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.
- 1.2 This statement has been amended following winter groundwater monitoring and a planning refusal. Due to the high water table level, the development's surface water will be routed to Southern Water's public sewer in Southwick Road. Southern Water has agreed to the maximum proposed discharge rate of 2.0l/s.
- 1.3 The application site lies in Southwick, which is administered by Adur and Worthing Councils (AWC). it comprises vacant garden space to the rear of dwellings along Southview Road. A site location map and aerial view are shown in Appendix A.
- 1.4 Topography: A topographical survey is shown in Appendix B. The site's levels range between approximately 11.7m AOD and 10.2m AOD. As the site is soft landscaped it is 100% permeable. The site area is approximately 2693m².
- 1.5 Geology: The BGS online map shows this area's bedrock is Tarrant Chalk. This is overlain by superficial deposits of Head (clay, silt, sand and gravel). Head has a notoriously low permeability, whilst the Chalk is likely to offer at least reasonable, if not good, porosity.
- 1.6 Surface water flooding: This site is affected by 2 overland flow routes that enter the site from higher land to the north and northwest.
- 1.7 It is considered likely that there will be porosity at depth for infiltration structures such as porous pavings, infiltration trenches/blankets etc. The Head, which has a high proportion of cohesive soil particles (which limits the porosity) acts as an impervious 'capping layer'. This is what is causing the LLFA drainage engineers to warn of the 'groundwater flooding problem' (in the pre-app letter).
- 1.8 A Site Investigation was carried out to determine the water table level, soil types down to 6m below ground level and soil soakage rates. The boreholes show the upper level of Head being mostly clay, while the lower level being mostly sand (sized particles).
- 1.9 Soakage tests were carried out in accordance with BRE365. Appendix E contains the test results and borehole records. The lowest soakage rate is 7.6 x 10⁻⁶m/s.

- 1.10 Winter groundwater monitoring was undertaken between 09/11/19 and 03/04/20. The water table rose from 5.5m bgl to the surface on 24 January '20 and stayed there until the end of March. The data logger graph is in Appendix E. It is clear from this result that soakage is not a viable option, therefore.
- 1.11 Public Sewers: Southern Water's sewer records (in Appendix B) show both foul and storm water public sewers in Southview Road. The depth of the surface water sewer below ground level at both the manholes upstream and downstream of the site is approximately 1.5m.
- 1.12 A pre-application capacity check was sent in to Southern Water's. Agreement to discharge into the sewer at a maximum rate of 2.0l/s was sought and subsequently confirmed as acceptable.
- 1.13 The EA's Groundwater Source Protection Zones map show the site being removed from the nearest zone. The site overlies a Major Aquifer – High, according to Groundwater Vulnerability Zones map, however – as to be expected considering the Tarrant Chalk stratum (at depth).
- 1.14 The EA's surface water flood maps show that this site is liable to flood in the 1 in 100 years and 1 in 1000 years storm.