

Hele View

Percolation & Infiltration Testing

Client: Hazel Walker
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1 INTRODUCTION

1.1 General

WCI have been appointed by Hazel Walker to undertake a percolation test to establish the potential for the design and installation of a drainage field for the disposal of treated or untreated sewage effluent together with infiltration tests to establish the potential for the design and installation of a soakaway for surface water disposal.

The percolation tests were undertaken in accordance with BS 6297:2007 + A1:2008 methodologies and requirements. Infiltration tests were undertaken in accordance with BRE DG365.

1.2 Site Description

The site is situated at Hele View, Clayhanger, Devon, EX16 7NZ as shown in the Site Location Plan, Appendix A.

The site is set in a rural area surrounded by agricultural fields. A spring issues from a point 60m to the south of the nearest percolation test.

2 GROUND INVESTIGATION

2.1 Fieldwork

An intrusive investigation was carried out on the 18th March 2022. The trial pit location plan and in-situ results and associated photos are presented in Appendices B and C respectively.

2.2 Trial Pits

A total of 5 trial pits were excavated in the area anticipated for the foul water drainage field as indicated in Appendix B. 4 no. pits were excavated by hand to the requisite depth of 600mm BGL.

1 no. pit was excavated using a 2 tonne tracked excavator to a depth of 2.4m BGL to assess groundwater levels and subsequently for infiltration tests.

2.3 General Ground Conditions

The ground encountered comprised a superficial covering of turf and topsoil with consolidated cohesive clay soils from ground level to the base of the deepest pit at 2.4m BGL.

3 RESULTS

3.1 Summary

The results of the tests are presented in Appendix C. Of the 4 percolation tests, only one pit drained to any extent with a resulting average V_p of 32. In accordance with BS 6297 a minimum V_p of 15 s/mm is required to ensure infiltrating water does not enter the ground too rapidly. Further, where V_p is above 100 s/mm effective soakaway is unlikely to be achieved which may lead to wastewater ponding on the surface. The effective V_p across the site is greater than 100 on the basis that 4 out of 5 trial pits did not drain.

An alternative system of drainage will be required. This is likely to comprise a direct discharge to watercourse.

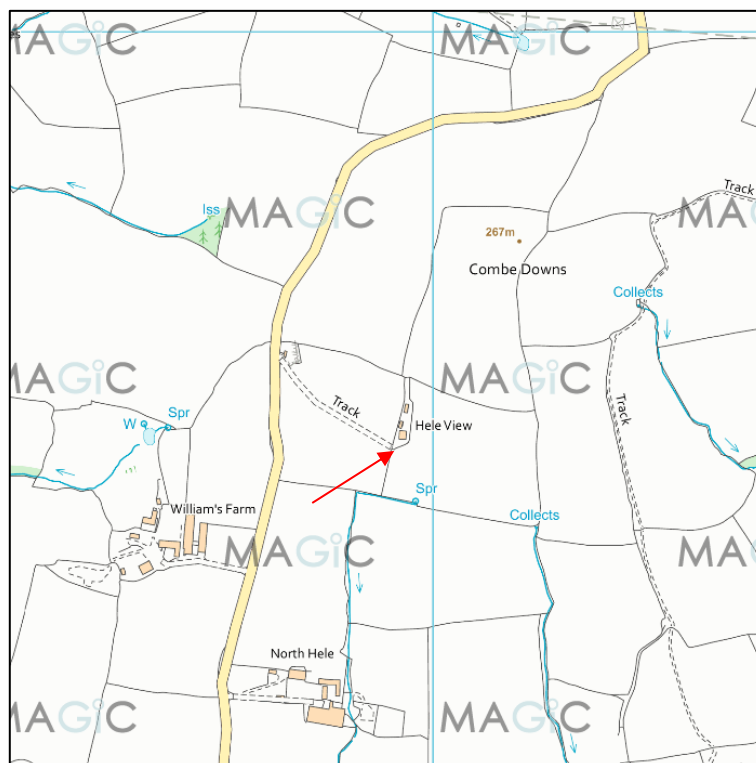
Infiltration testing was undertaken on a single trial pit. Water was filled to a depth of 1.75m with no visible reduction over 6 hrs. Infiltration tests were subsequently abandoned.

3.2 Groundwater

No groundwater was observed. Minor seepage entered the excavation from surface water saturation with no increase in depth.

4 APPENDICES

4.1 Appendix A: Site Location Plan



4.2 Appendix B: Trial Pit Locations



4.3 Appendix C: Results

Percolation Tests

	Test No.	Distance (mm)	Time (min)	Time (sec)	Vp	Av Vp
Pit 1	1	150				
	2	150				
	3	150				
Pit 2	1	150	60	3600	24.0	
	2	150	87	5220	34.8	
	3	150	95	5700	38.0	32.3
Pit 3	1	150				
	2	150				
	3	150				
Pit 4	1	150				
	2	150				
	3	150				
Pit 5	1	150				
	2	150				
	3	150				
					Vp (sec/mm)	>100

Infiltration Tests

Tests abandoned. No reduction in depth over 6 hrs.

4.4 Appendix D: Photographic Record



Trial Pit 1



Groundwater test



Infiltration test



General layout



Soil profile