

OUR REF: A2352/19/B.0 14th January 2019

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By Email (Phil.Sarbutts@swf.uk.com)

Dear Phil,

Soil Infiltration Rate Assessment Letter Report
Ruabon Park, Ruabon

Background

A site Investigation has been commissioned by SWF Consulting Ltd on behalf of Aldi Stores Ltd (the Client) to examine the soil infiltration rates of the ground at Ruabon Park, Ruabon.

Reference

Earth Environmental and Geotechnical Ltd were commissioned by the client to undertake a Geo-Environmental Investigation of the site with the following objectives:

- Assess ground conditions for drainage design purposes.

Proposed Development

The current proposed development of the land includes an ALDI foodstore with associated parking, a Costa drive thru, and a petrol filling station with a shop and carwash. A development plan has been provided as Figure 1 overleaf.

Fieldwork

Over the course of one day (10th January 2019), three locations (SA01 to SA03) were excavated by means of a hydraulic excavator. All of these pits were designated for soakaway testing with the location of the pits being determined by the locations of proposed soakaways for the Costa drive thru and petrol filling station. Three soakaway cycles were run in each pit with each test being carried out by filling the excavation rapidly with water from a 9000 litre water bowser. A plan of the testing is provided as Figure 2 overleaf.

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The soil infiltration rate was calculated using the data provided from each of these tests. The detailed testing results for these are presented in Appendix B with a summary in Table 1.

All locations were surveyed by use of a Trimble GeoExplorer with attached antennae. This instrument is capable of a positional accuracy of less than 50cm, depending upon satellite coverage and proximity to buildings etc.

Ground Conditions

The site is currently an unoccupied plot. Generally, across the site there is a layer of vegetation which is underlain by a layer topsoil with sand and gravel below. Detailed logs of the trial pits used during the soakaway testing can be found in Appendix A.

Figure 1 Site Development Plan

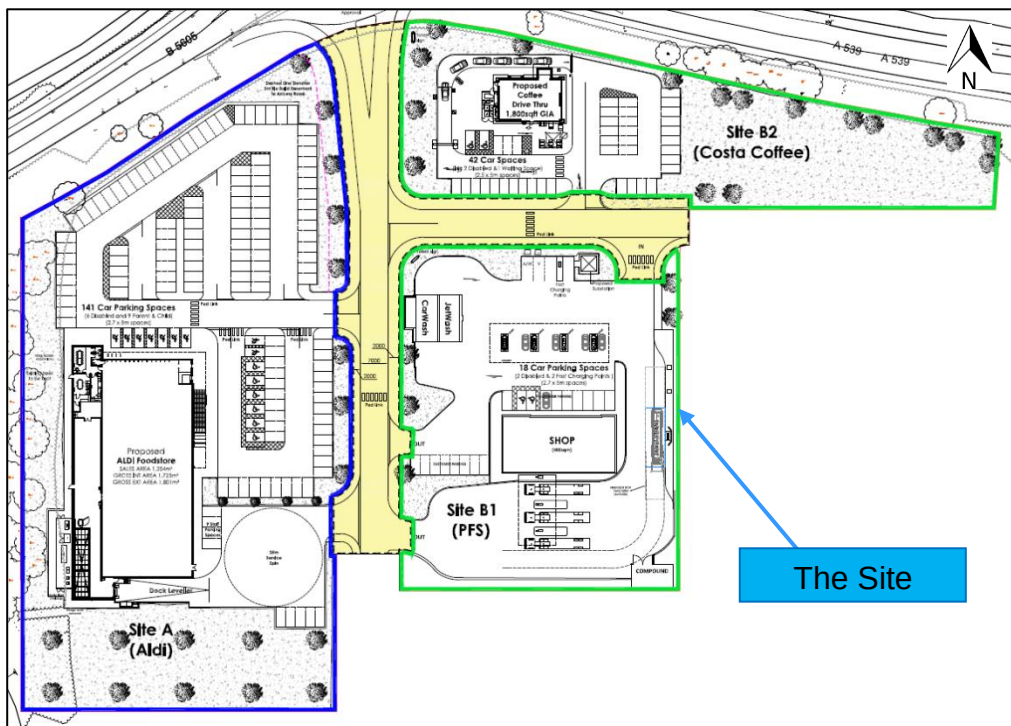
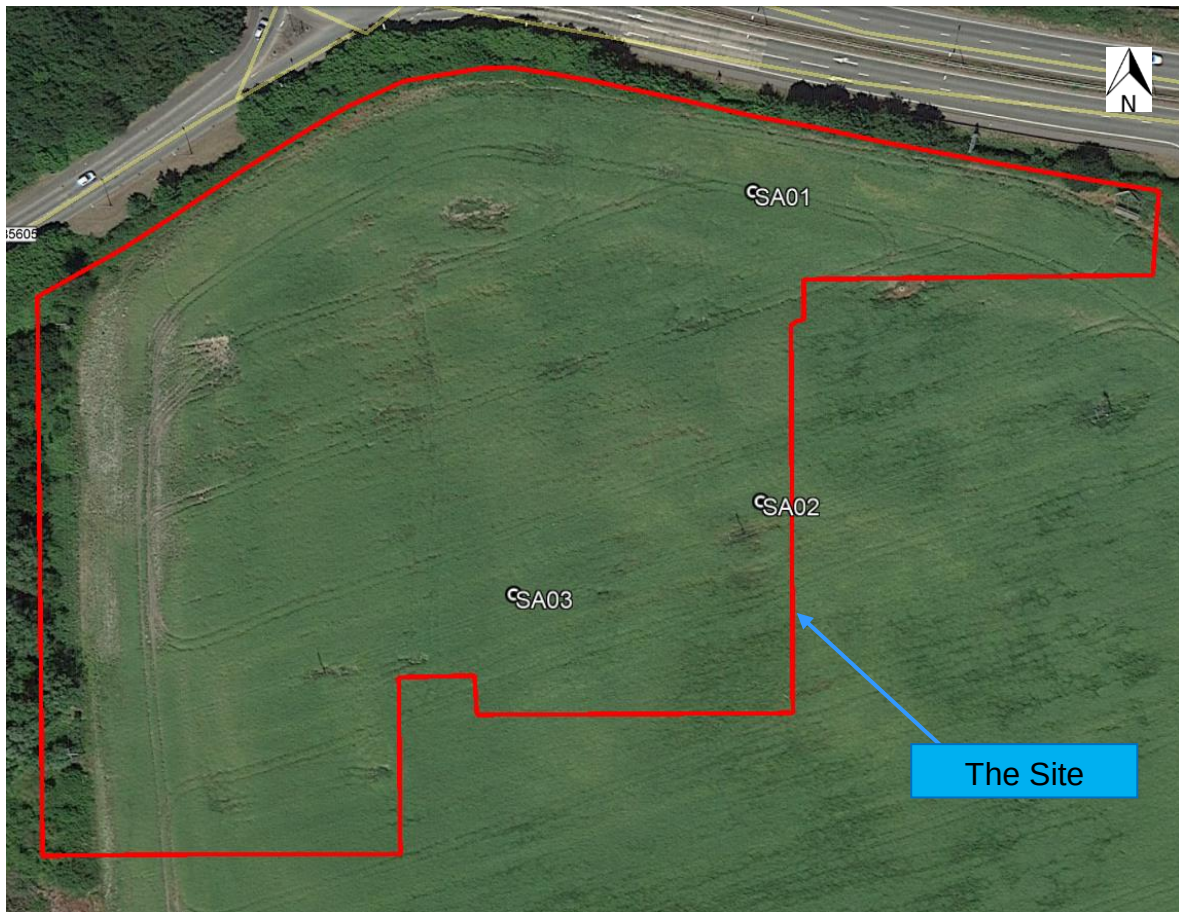


Figure 2 Soakaway Testing Plan



Soakaway Testing

Each of the soakaway pits were excavated down to the natural strata which was in general sand and gravel. Table 1 below provides a summary of the average infiltration rate for each of the pits. For pit SA03 tests 1 to 3 the measured data was extrapolated in order to calculate the infiltration rate and has been included within the averages.

Table 1 Soakaway Infiltration Rates

Soakaway No.	Average Infiltration Rate (m/s)
SA01	2.71E-04
SA02	1.51E-04
SA03	1.81E-05



Conclusions

The soakaway testing revealed the granular deposits underlying the made ground as suitable for the installation of soakaways.

Please do not hesitate to contact me should there be any queries.

Yours Sincerely,

Luke Glover
GeoEnvironmental Consultant

Adam Czarnecki
Director

For and on behalf of Earth Environmental & Geotechnical Ltd

Enclosed: Appendix A – Soakaway Pit Logs
Appendix B – Soakaway Testing Results

APPENDIX A

SOAKAWAY PIT LOGS



APPENDIX B

SOAKAWAY TESTING RESULTS