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Arun District Council
Arun Civic Centre
Maltravers Road
Littlehampton
West Sussex
BN17 5LF

Date: 31 July 2025
Your Ref:
Our Ref: HA/4274/001
Email: [redacted]

Dear Sir/Madam

I am writing to provide you with additional information regarding the proposed drainage strategy for the proposed development at The Old Butcher's Flat, Climping Street, Climping. Within this document are enclosed site infiltration testing results and a CCTV survey of the existing site drainage.

CCTV Survey

The CCTV survey found that the drainage infrastructure on site is separated into dedicated surface water and foul water networks. The foul drainage currently discharges into the public foul water sewer within Climping Street, whilst the outfall for the existing surface water network could not be located, there are areas suggested, within the report, that potential soakaways could be located to discharge surface water via infiltration.

The CCTV survey summarises the following for rainwater drainage:

"*The rainwater discharge is all assumed to connect to buried soakaways. There is no access for CCTV survey and their condition and performance cannot be determined. No outfalls were found on the site. One of the downpipes is simply open discharge to the ground at the property wall line. Consideration should be made to install water butts to reduce the risk of damp in the property structure or the installation of new soakaways. Manhole 13 appears to be a catch pit for surface water. It is assumed this once served The Old Butcher Flat, but flow testing and CCTV showed no evidence of positive connection and has to be assumed now redundant.*"

Infiltration Testing

The site-specific infiltration testing involved two trial pit locations, which were located within the grassy area immediately south of the site access road. The tests could not be conducted within the road due to existing below ground service infrastructure and so as to not obstruct the general day-to-day use of the site. The tests did not encounter groundwater during the excavation of each trial pit, allowing soakage tests to be performed.

One trial pit was excavated to a depth of 1.6m with the second to a depth of 0.6m. The trial pit dug to 1.6m was not successful, draining only approximately 25% water added. The trial pit dug to 0.6m was successful and an infiltration rate of 0.022m/hour was calculated. The investigation found no significant difference in geology or ground conditions at similar depths between both trial pits, therefore the difference in infiltration potential has

been assumed to be due to depth. Therefore, the infiltration rate calculated for the second trial pit, at 0.6m, has been assumed to be generally representative for the site at that depth.

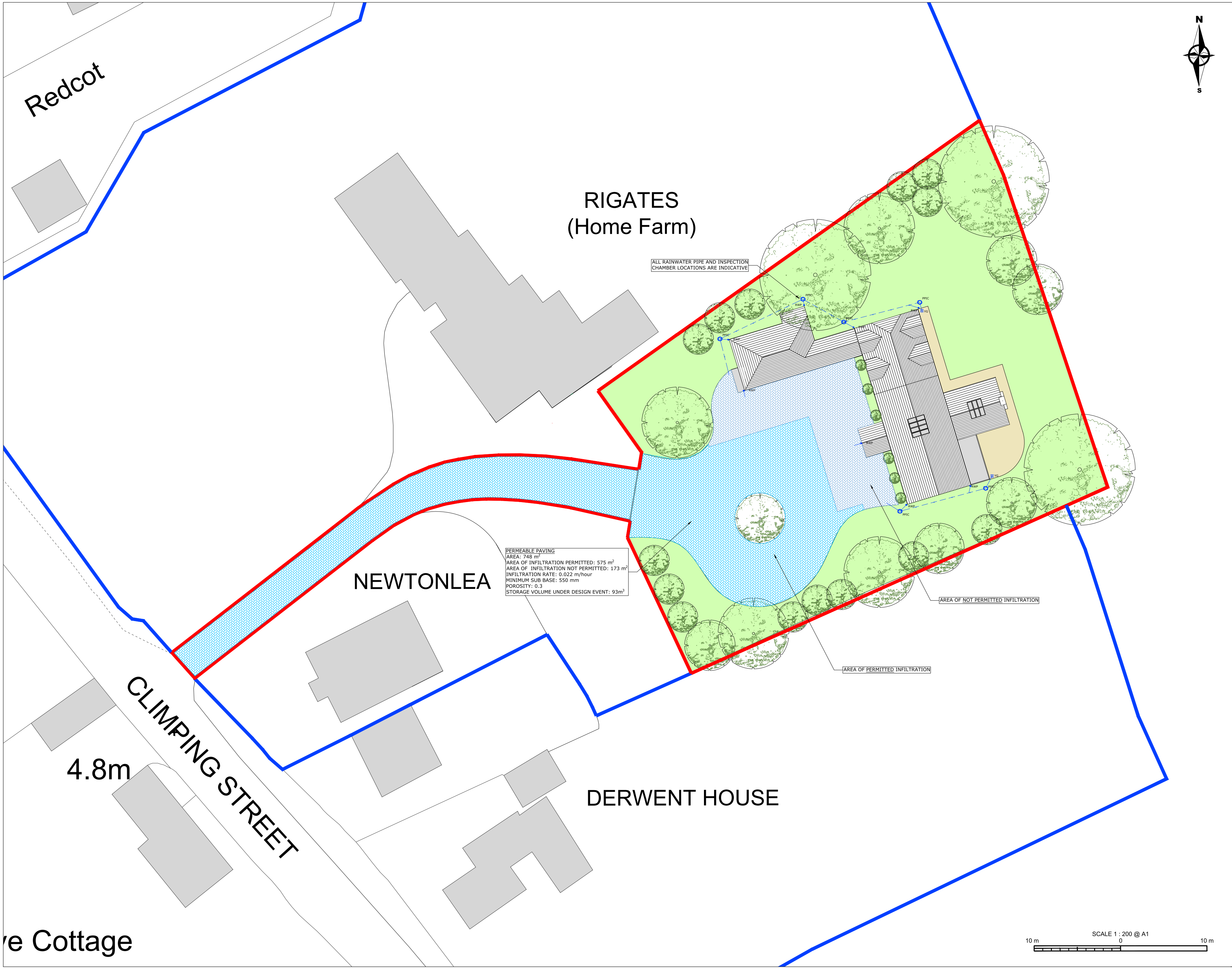
The proposed permeable surfacing, from which infiltration has been allowed via the subbase, is designed at a depth of 0.55m. The depth of proposed subbase is similar to the depth of the second trial pit, therefore the infiltration rate of 0.022m/hour has been utilised from the permeable surfacing. An updated set of calculations and surface water drainage drawing has been included within the enclosed documents to reflect the results from the testing on site.

I trust that the additional information provided in this letter addresses the concerns you have raised in regard to the drainage strategy. However, if you have any additional questions or concerns, please do not hesitate to contact me and I would be happy to discuss.

Yours faithfully,
Hamza Askari BSc (Hons) MPhys MPhil
Drainage Engineer

Enclosed documents:

- Updated Drainage Layout Plan
- Updated Causeway Flow+ Calculations
- Ground investigation report (including infiltration testing)
- Drainage CCTV survey



GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
2. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS, EUROPEAN NORMS, CODES OF PRACTICE AND BUILDING PRACTICE.
3. ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING THE WORKS ON SITE. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
4. INFILTRATION FEATURES WILL BE SUBJECT TO SITE SPECIFIC INFILTRATION TESTING AND TRIAL HOLES.
5. ALL DRAINAGE SYSTEMS WILL NEED TO BE INSTALLED AND DESIGNED FOR SUITABLE LOADING REQUIREMENTS.
6. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL AND ALL NECESSARY LICENCES FROM THE HIGHWAY AUTHORITY AND/OR SEWERAGE UNDERTAKER BEFORE CARRYING OUT ANY WORKS.
7. THIS DRAWING WAS PRODUCED FOR USE IN CONJUNCTION WITH A PLANNING SUBMISSION AND SHOULD NOT BE USED FOR OTHER PURPOSES. A MORE DETAILED DESIGN INCLUDING PRODUCT SPECIFICATIONS WILL NEED TO BE PRODUCED PRIOR TO CONSTRUCTION.

KEY:

- SURFACE WATER DRAIN
- PPIC — SURFACE WATER PPIC
- RWP — RAINWATER PIPE
- YG — YARD GULLY
- PERMEABLE SURFACE (INFILTRATION PERMITTED)
- PERMEABLE SURFACE (INFILTRATION NOT PERMITTED)

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Rev	Description	Author	Checked	Date
P1	Second issue	HA	EC	31/07/25
P0	First issue	HA	EC	18/03/25

CLIENT: The Baird Farming Partnership

PROJECT: The Old Butcher's Block, Climping Street

SCALE	PROJ REF	ORIGINATOR	CHECKED BY
1:200	4274	HA	EC

HC DWG REF: 4274_DWG_r1

DWG TITLE: INDICATIVE SURFACE WATER DRAINAGE LAYOUT

DWG No.: HC-4274-501

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	45	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	0.500
Time of Entry (mins)	4.00	Include Intermediate Ground	x
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	250.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Permeable Surfacing	0.116	4.00	10.000	-14.638	97.734	0.700

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	1.000	Drain Down Time (mins)	1500	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	0.0		

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
10	0	0	0
10	40	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	10	0

Node Permeable Surfacing Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.02203	Invert Level (m)	9.300	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	327	Depth (m)	0.550
Safety Factor	2.0	Width (m)	23.979	Inf Depth (m)	
Porosity	0.30	Length (m)	23.979		

Node Permeable Surfacing Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	9.300	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.550
Safety Factor	2.0	Width (m)	13.153	Inf Depth (m)	
Porosity	0.30	Length (m)	13.153		

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	Permeable Surfacing	124	9.375	0.075	9.0	14.3515	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
180 minute summer	Permeable Surfacing	Infiltration	1.8

Results for 10 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	Permeable Surfacing	148	9.439	0.139	15.4	28.7861	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
180 minute summer	Permeable Surfacing	Infiltration	1.8

Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	Permeable Surfacing	172	9.510	0.210	14.0	44.7992	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
180 minute winter	Permeable Surfacing	Infiltration	1.8

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	Permeable Surfacing	172	9.486	0.186	12.7	39.4367	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
180 minute winter	Permeable Surfacing	Infiltration	1.8

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Permeable Surfacing	232	9.580	0.280	14.2	60.3977	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
240 minute winter	Permeable Surfacing	Infiltration	1.8

Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	Permeable Surfacing	176	9.544	0.244	15.9	52.3857	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
180 minute winter	Permeable Surfacing	Infiltration	1.8

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Permeable Surfacing	236	9.727	0.427	20.1	93.3672	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
240 minute winter	Permeable Surfacing	Infiltration	1.8

Ground Investigation Report

The Old Butchers Block
Climping Street
Climping
Arun
West Sussex
BN17 5RQ

Prepared for:

The Baird Farming Partnership
Ryebank Farmhouse
Climping
Littlehampton
West Sussex
BN17 5RF

EPS Project Reference:	UK25.7445
Date Issued:	24th July 2025
Report Status:	Issue 1

THE OLD BUTCHER'S BLOCK, CLIMPING

NON-TECHNICAL CLIENT SUMMARY

This report presents the findings of a Ground Investigation undertaken to determine ground conditions and provide relevant information for use in the infiltration design for the site and its future development. Pertinent findings and conclusions are summarised as follows:

- The study area is known as The Old Butchers Block and is located on the east side of Climping Street where it is proposed that some existing buildings are demolished to accommodate a new residential dwelling for which infiltration drainage features are being considered.

- This ground investigation involved the excavation of two trial pits in an area of soft landscaping to the south of the buildings and car parking area, with the trial pits being excavated to depths of 0.6m and 1.6m with subsequent 'soakaway' infiltration testing undertaken at each location.

- Ground conditions comprised a layer of topsoil over firm slightly gravelly, sandy, silty clay designated as undefined Superficial Deposits with groundwater seemingly absent.

- The 'soakaway' infiltration testing int the trial pit excavated to a depth of 1.6m was not successful in that only around 25% of the water added to this trial pit drained during the testing period meaning that an infiltration rate has not been able to be calculated. The testing at the shallower trial pit excavated to 0.6m however was successful with two tests undertaken whereby approximately 75% of the water added to the trial pit drained allowing for infiltration rates to be calculated.

- An infiltration rate in the region of 6.12×10^{-6} has been calculated for the second 'soakaway' test performed at the shallow trial pit when the soils at this location were already saturated and this infiltration rate, which suggest that the Superficial Deposits have a 'low permeability'.

The above points represent a simplified summary of the findings of this assessment and **must not** form the basis for key decisions for the proposed development. A thorough review of the details is contained within the following report or alternatively get in touch and we'll talk you through it.

Project Reference:	UK25.7445
Title:	Ground Investigation Report – The Old Butchers Block, Climping
Client:	The Baird Farming Partnership
Date:	24th July 2025
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN
Status:	Issue 1

[redacted]

Author:	**Reviewed:**	**Authorised:**
Orla Baker	Tom Androsiuk	Steve Bullock
Consultant	Principal Consultant	Director

The report has been written, reviewed, and authorised by the persons listed above. It has also undergone EPS' in house quality management inspection. Should you require any further assistance regarding the information provided within the report, please do not hesitate to contact us.

The National Planning Policy Framework requires a competent person to prepare site investigation information, which is defined as a person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation. EPS considers that it fulfils these criteria and would welcome any request for staff CVs or case studies to demonstrate it.

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Figures

Appendices

1 INTRODUCTION

In June 2025, Environmental Protection Strategies Ltd (EPS) was commissioned by Herrington Consulting on behalf of The Baird Farming Partnership to complete a Ground Investigation for a site known as The Old Butchers Block, Climping Street, Climping, Arun, West Sussex, BN17 5RQ ('the site'). A site location plan is presented as Figure 1 and selected site photographs are included as Appendix A.

The work was commissioned to investigate the nature of the ground conditions and to undertake infiltration testing to assist a drainage strategy for the proposed redevelopment of the site into a new residential dwelling. A proposed development plan is presented as Appendix B.

1.1 Scope of Works

To perform an exploratory assessment of the site in accordance with the principles and requirements of BS 5930:2015+A1:2020 '*Code of practice for ground investigations*,' the following tasks were undertaken.

Intrusive Investigation:

- Site walkover/ obtaining photographic records.
- Health and safety briefing/site supervision.
- Formation of two trial holes to a maximum depth of 1.6m below ground level (bgl), using a mechanical excavator, and subsequent infiltration testing undertaken in general accordance with *BRE Digest 365 'Soakaway Design'*.
- Continual logging of the ground conditions.
- Reinstatement.

Reporting:

- Data collection & interpretation.
- Reporting.

The findings of these investigations and their conclusions are presented in the following sections.

1.2 Limitations and Constraints

The purpose of this report is to present the findings of a soil sampling investigation conducted at the location(s) specified. When examining the data collected from the investigations made during the assessment, Environmental Protection Strategies Ltd (EPS) makes the following statements:

No investigation method is capable of completely identifying all ground conditions that might be present in the soil or groundwater under a site. Where outlined in our report, we have examined the ground beneath a site by constructing a number of boreholes and / or trial pits to recover soil and / or groundwater samples. The locations of these excavations and sampling points are considered to be representative of the condition of the entire site sub-surface however, ground conditions are naturally variable, and it may be possible that the conditions encountered may differ to those found during the investigation.

This report does not include specific investigation for the presence of either Potential Asbestos Containing Material (PACM) or Japanese Knotweed at the subject site however, if obvious evidence of either is observed during EPS site walkover, details will be provided in this report. Specialist contractors should be commissioned to make detailed assessments and recommendations if these materials are suspected.

Whilst it is recognised that information contained within this report may assist relevant and suitably qualified professionals, this report does not provide a geotechnical appraisal of ground conditions with respect to suitability of foundations or future structures, nor does it intend to identify a need for any associated geotechnical ground improvement works.

2 SITE CHARACTERISATION

The following section provides a summary of the information collected in relation to the site location and geo-environmental context.

Detail	Description
Location	The area of investigation is located south of Climping near Littlehampton in the Arun district of West Sussex.
National Grid Reference	500153, 101514
Topographic Elevation	Levels across the study area are generally flat and lie approximately 4m – 5m above ordnance datum (AOD).
Description of Site	The study area is accessed from the west via a gated driveway off the eastern side of Climping Street. At the time of this ground investigation in July 2025, the existing buildings within the site boundaries which are proposed to be demolished included a single storey brick built structure and an single storey barn / shed type structure at the rear (east). The driveway leads to an area of parking in front of the buildings and both this area and the driveway are surfaced with asphalt. Southeast of the area of parking and buildings is an area of soft landscaping where two above ground propane gas tanks and an above ground tank (presumably for heating oil) are present. Several flower beds and areas of planting are situated throughout the area. There are several residential dwellings in the immediate surrounding area including Rigates (Home Farm) to the immediate north and Derwent House to the immediate south with the land at the rear (east) of the property used as arable farmland.
Geology	Geological mapping indicates the site to be underlain by the bedrock geology, Lewes Nodular Chalk, Seaford Chalk, Newhaven Chalk, Culver Chalk and & Portsdown Chalk Formations (undifferentiated). Superficial sand and gravel Raised Beach Deposits are also mapped with the area of investigation and superficial sand, silt and clay River Terrace Deposits are also mapped close by to the west.

3 SUMMARY OF INVESTIGATIONS

The intrusive investigation was undertaken on the 1st July 2025, in accordance with EPS standard operating procedures, copies of which will be made available on request. A summary of the site activities is presented in the following sections:

3.1 Trial Pit Locations

Trial pit positions were confirmed through the consideration of the anticipated development layout and potential locations for any drainage infrastructure to be installed as part of the scheme. The potential locations of existing below-ground utilities as well as operational and health & safety considerations and access constraints also factored into the ultimate locations of the trial pits.

The objective in terms of trial pit locations was to assess the nature of the ground conditions and the potential suitability of the underlying soils for the adoption of infiltration drainage. Trial pit TP01 was excavated to a depth of approximately 1.6m while TP02 which was positioned nearby was excavated to a shallower depth of approximately 0.6m, both trial pits were excavated using a mechanical excavator sourced by the Client.

On completion, the trial pits were backfilled, firstly with compacted natural soils and then with topsoil replaced and levelled at the surface.

The location of the trial pits is presented on Figure 2.

3.2 Infiltration Testing

Trial pits were logged for ground conditions encountered and 'soakaway' infiltration testing was subsequently attempted at both trial pit locations in general accordance with BRE Digest 365 'Soakaway Design', in order to assess the permeability of the shallow soils. These tests were undertaken exclusively within the profile of the natural soils (i.e. below the topsoil present from the surface at the location of the trial pits).

4 FINDINGS OF THE INVESTIGATION

This section of the report provides a summary of the findings of the various aspects of the ground investigation.

4.1 Ground Conditions

Site-specific trial pit logs are included as Appendix C and give descriptions and depths of strata encountered. Based on the nature of the recovered soils and mapped geology of the area, the ground conditions encountered during the intrusive assessment have been interpreted to consist of the following:

- Topsoil
- Superficial Deposits

A summary of the general strata encountered across the site is provided in the table below, with a more detailed description given in the following sub-sections.

Geological Strata	Maximum Depth to Base of Strata (m bgl)	Range of Strata Thickness (m)
Topsoil	0.3	0.3
Superficial Deposits	Not Proven (>1.6)	Not Proven

4.1.1 Topsoil

The topsoil present from the surface at each trial pit location was recorded as approximately to 0.3m thick and can be described as brown, slightly sandy, silty clay with some rootlets.

4.1.2 Superficial Deposits

Beneath the topsoil, materials defined as Superficial Deposits were encountered, these soils could represent the mapped Raised Beach Deposits mapped within the sites boundaries or the River Terrace Deposits mapped nearby to the west however for the purposes of this investigation the natural shallow soils have been designated as undefined Superficial Deposits. The superficial soils at both trial pit locations were consistent and described as firm orangish brown, slightly gravelly, sandy, silty clay, with roots and gravels consisting of rounded flint cobbles.

4.2 Groundwater

Groundwater was not encountered within the trial pits excavated as part of this investigation.

4.3 Physical Evidence of Contamination

No made ground materials or physical evidence of contamination, such as soil staining, odour or putrescible material, was encountered in any of the soils recovered as part of this investigation. The recovered soils also appeared to be free from any hydrocarbon staining and odours.

4.4 Infiltration Testing Results

'Soakaway' infiltration testing was attempted at both trial pit locations (TP01 & TP02) with the results of this testing summarised in the table below.

Trial Pit Location	Depth of Trial Pit (m bgl)	Infiltration Rate (m/s)	Comments
TP01 (Test 1)	1.6	-	Infiltration rate not calculable due to only ≈ 25% of water added to test draining during the testing period of approximately five hours.
TP02 (Test 1)	0.6	$3.36x10^{-5}$	Two complete tests achieved with approximately 75% of the water added draining. A third test could not be undertaken due to time constraints.
TP02 (Test 2)		$6.12x10^{-6}$	
TP02 (Test 3)		NA	

The above summary shows that TP01 Test 1 was unsuccessful as there was insufficient infiltration observed during the testing period to calculate an infiltration rate, during this period approximately 25% of the water added to the trial pit drained. At TP02 approximately 75% of the water to the trial pit for the first test (Test 1) drained within approximately 45 minutes. At second test (Test 2) was then undertaken at TP02 with 75% of the water added draining over a period slightly greater than three hours.

The difference in infiltration rates calculated from the testing at TP02 is almost certainly due to the soils being unsaturated during the first test and saturated (with water added to the first test) during the second test, as such, an infiltration rate in the region of $6.12x10^{-6}$ m/s (indicative of 'low permeability conditions.') should be taken forward in the design of any shallow infiltration drainage features. Given that both trial pits were positioned relatively close to one another and that the ground profile was consistent at each trial pit location, there does not appear to be any obvious reason for the reduced infiltration observed at TP01 compared to TP02 aside from the depth that the trial pits were excavated to and the depths of the subsequent 'soakaway' infiltration testing that was undertaken.

The ultimate drainage strategy for the proposed scheme should consider the potential for potential chalk and chalk dissolution features. Although the bedrock chalk soils are not anticipated to be present within 4m (based on nearby historic borehole records) suitable precautions, in-line with current best practise, and guidance relating to drainage design

FIGURES

N

Rev	Date	Drawn	Description	Ch'k'd

The Geotechnical and Environmental Engineers
www.epstrategies.co.uk

Site
The Old Butcher's Block, Climping,
Arun, West Sussex, BN17 5RQ

Client
The Baird Farming Partnership

Title
Figure 1 - Site Location Plan

Surveyed:		Drawn by:	OB
Checked by:	TA	Date:	22/07/2025
Scale [A4 Sheet]	Not to Scale	Drawing Reference	UK25.7445_01
Job No	UK25.7445	Rev	01

N

KEY:

EPS TRIAL PIT / SOAKAWAY

SITE BOUNDARY

Rev	Date	Drawn	Description	Ch'k'd

The Geotechnical and Environmental Engineers
www.epstrategies.co.uk

Site
The Old Butcher's Block, Climping,
Arun, West Sussex, BN17 5RQ

Client
The Baird Farming Partnership

Title
Figure 4 - Trial Pit Location Plan

Surveyed:		Drawn by:	OB
Checked by:	TA	Date:	22/07/2025
Scale [A4 Sheet]	Not to Scale	Drawing Reference	UK25.7445_02
Job No	UK25.7445	Rev	01