GROUNDSMITHS
GEOTECHNICAL ENGINEERS

Completion Report for the Treatment of Mine Workings

OLD HALL STABLES, TIMOTHY LANE, BATLEY

Project Ref: GUK-0525-03

PROJECT:

Residential Development

REPORT REFERENCE:

GUK-0525-03/Rp-002

SITE REFERENCE:

Old Hall Stables
Timothy Lane
Batley

CLIENT:

Mr & Mrs Gaskin

DOCUMENT ISSUE:

Issue No.	Date	Status	Revision Change
V1	28th July 2025	First Issue	-

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1 INTRODUCTION

1.1 Appointment

Groundsmiths (UK) Ltd ('Groundsmiths') were appointed by Mr & Mrs Gaskin (the 'Client') % Demolition & Geotechnical Limited ('D&G') to compile a Completion Report (the 'Report') in relation to a programme of shallow mine workings treatment that was undertaken at the Client's property at Old Hall Stables, Timothy Lane, Batley (herein referred to as the 'Site').

Groundsmiths have prepared this Report for the sole use of the Client that commissioned it in accordance with the agreement under which our services are performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report. Any unauthorised third parties using the information presented do so entirely at their own risk and are duly excluded from any warranty, duty of care or skill.

No part of this Report shall be reproduced or redistributed without the prior written consent of Groundsmiths. However, the Report may be issued by the Client or their Agent to the Local Planning Authority to support the discharge of any pre-commencement, pre-occupancy, or other stage of development condition as may or has been imposed in relation to the Site's assessment under the Town and Country Planning Act 1990.

1.2 Report Context & Status

An account of the mining legacy assessment and investigation phases for the Site in relation to the Client's development proposals were provided in the previously issued *Treatment of Mine Workings Specification* (the 'Specification') [1]. That document made reference to a combined Phase I Desk Study & Coal Mining Risk Assessment completed by Rogers Geotechnical Services Ltd ('RGS') [2] in May 2024 and a subsequent phase of intrusive ground investigation undertaken in April 2025 by GA Site Investigation Ltd ('GA').

It is not the intention of this Report to reproduce the content of previously issued documentation, so reference should be made to them as required, although in summary the following salient details may be given:

1. The Site lies within a Mining Remediation Authority ('MRA') defined area of Development High Risk area;

2. The Consultants Coal Mining report indicated the presence of known workings in the Flockton Thick Coal from 7.0m bgl, although the crop of this seam was to the west of the Site and lay above the Site in succession. The extraction thickness was recorded as being 0.81m, and for the last date of working being 1889;

3. The MRA data identified the likelihood of probable shallow unrecorded working beneath the Site (NOTE: *this being where they believe there to be coal workings that exist at or close to the surface at <30m* depth). An adit was indicated ~45m to the east of the Site at the position of the Flockton Thin Coal, with the direction of entry being towards the Site (consistent with the seam's dip);

4. The CMRA identified potential risk from shallow workings in the Flockton Thin Coal. Ground investigation to confirm the depth to, condition, and thickness of any such working was recommended, with some boreholes to be taken to a terminal depth of 30m bgl;

5. A moderate risk to development from biogenic ground gas was postulated, with further assessment being recommended if evidence of mine workings was proven during ground investigation (NOTE: This Report does not relate to the assessment or monitoring of ground gases, nor does it provided details of any remedial measures that may be required in construction. Any such works as required should be undertaken by others under commission from the Client;

6. It was observed that only a single borehole had been completed by GA to a terminal depth of 19.5m bgl. The position of the borehole was unknown, but recorded the presence of 'void' from 9.5m to 9.9m bgl; a second but intact coal was also recorded, with this being from 11.6m to 11.7m bgl.

Given the limited nature of the ground investigation and the presence of a void, it was indicated that a programme of grout consolidation in general accordance with guidelines prescribed in CIRIA documentation[1] would need to be undertaken to enable betterment of the development's overall stability.

General treatment proposals were subsequently provided in the Specification; the grouting layout to be completed is appended as Figure 0525-03-001 for information. Given the recording of workings, it was proposed that grouting would commence on a 3.0m x 3.0m square grid primary borehole pattern, with this extending to 3.0m beyond each building line where possible. Secondary grout borehole positions at 6.0m x 6.0m offset (so 4.24m on the diagonal) across external areas were not required as the treatment area was localised to the conversion/extended part of the existing stable block; there are no proposals to investigate or treat the remaining part of the existing stable block. It was indicated that where heavily disturbed ground was encountered, and/or where grout takes were found to be high, a tighter grid of treatment holes would be required.

As always, the intention of such works is to ensure that no significant subsidence or crown hole can develop in the post-treatment phase[2], whilst demonstrating to the Local Planning Authority ('LPA') that the Site is, or can be made, safe to meet the requirements of the National Planning Policy Framework[3], namely paragraphs 196 and 197 (*'Ground Conditions and Pollution'*), which states (in relation to mining legacy) that planning policies and decisions should ensure that:

> **Para.196:** a) *a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and*

[1] Parry, D. and Chiverrell, C. (eds) (2019). Abandoned Mine Workings Manual. C758D. CIRIA, London, UK (ISBN: 978-0-86017-765-4).

[2] Grout consolidation of mine workings is not designed to add or increase ground strength, it is designed to stabilise (bind together) the soils, infill any voids, and prevent the migration of weakness.

[3] Ministry of Housing, Communities & Local Government (2024; amended 7th February 2025). National Planning Policy Framework. https://www.gov.uk/government/publications/national-planning-policy-framework--2, 12th December.

any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);

Para.196: c) *adequate site investigation information, prepared by a competent person, is available to inform the assessments;*

Para.197: *Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner*.

Groundsmiths were subsequently appointed on behalf of the Client by D&G to have some oversight of the treatment works and to compile the validation data presented herein.

1.3 Reporting Limitations

The reporting limitations detailed in Section 5, in addition to any other specific limitations stated in the Report text, shall apply.

2 DRILLING & GROUTING WORKS

2.1 Ground Conditions & Areas of Working

A visualisation of the condition of the workings encountered at each of the on-grid positions is shown on Figure 0525-03-002. A summary of the individual drilling records is provided in Table 2.1, below and overleaf, whilst a copy of the complete set of drilling records provided by D&G is given in Appendix A.

Table 2.1 - Summary of Proven Mining Legacy (On-grid)

Position on Grid	Drilled Length (m)	Unsuitable Cover Thickness (m)*	Soft / Broken Ground / Void (m)			Rock Cover (m)^^			
			From	To	Aggregate Height	From	To	Thickness	
A1	15.0	Intact coal recorded between 11.5-12.0m bgl							
A3	15.0	Intact coal recorded between 11.3-11.8m bgl							
A5	15.0	Intact coal recorded between 10.9-11.4m bgl							
A7	15.0	Intact coal recorded between 10.8-11.2m bgl							
A9	15.0	Intact coal recorded between 10.8-11.3m bgl							
C1	30.0	Intact coal recorded between 11.4-12.0m bgl							
C3	15.0	Intact coal recorded between 11.5-12.0m bgl							
C5	15.0	Intact coal recorded between 11.0-11.5m bgl							
C7	15.0	Intact coal recorded between 10.7-11.1m bgl							
C9	15.0	Intact coal recorded between 10.7-11.2m bgl							
E1	15.0	Intact coal recorded between 10.8-11.4m bgl							
E3	15.0	Intact coal recorded between 10.6-11.0m bgl							
E5	15.0	Intact coal recorded between 10.7-11.2m bgl							
E7	15.0	Intact coal recorded between 10.7-11.1m bgl							
E9	15.0	0.8	10.6	11.1	0.5	0.8	10.6	9.8	
G1	15.0	Intact coal recorded between 10.4-10.9m bgl							
G3	15.0	Intact coal recorded between 10.4-10.8m bgl							
G5	15.0	Intact coal recorded between 10.1-10.6m bgl							
G7	15.0	Intact coal recorded between 10.2-10.7m bgl							
G9	15.0	Intact coal recorded between 10.2-10.6m bgl							
J1	15.0	Intact coal recorded between 10.5-10.9m bgl							
J3	15.0	Intact coal recorded between 10.6-11.0m bgl							
J5	15.0	0.8	10.4	10.8	0.4	0.8	10.4	9.6	
J7	15.0	0.9	10.1	10.5	0.4	0.9	10.5	9.6	
J9	15.0	0.9	10.2	10.6	0.4	0.9	10.2	9.3	

Table Contd./

Position on Grid	Drilled Length (m)	Unsuitable Cover Thickness (m)*	Soft / Broken Ground / Void (m)			Rock Cover (m)^^			
			From	To	Aggregate Height	From	To	Thickness	
L1	15.0	Intact coal recorded between 10.4-10.9m bgl							
L3	15.0	Intact coal recorded between 10.6-11.0m bgl							
L5	15.0	Intact coal recorded between 10.3-10.8m bgl							
L7	15.0	0.8	10.2	10.7	0.5	0.8	10.2	9.4	
L9	30.0	Intact coal recorded between 10.3-10.7m bgl							

*Including any topsoil, made ground, weathered natural strata, or fractured bedrock above the workings. Thicknesses are based on D&G's observations only.
^^Excluding recorded unsuitable cover thickness. Depth to engineering rockhead from surface is unknown.

2.1 Additional (Infill) Drilling Positions

The following additional boreholes, summarised in Table 2.2 below, were completed to allow for further assessment of the underlying ground conditions where variation in mining legacy was noted during completion of the on-grid positions.

Table 2.2 - Summary of Proven Mining Legacy (Infill Positions)

Position on Grid	Drilled Length (m)	Unsuitable Cover Thickness (m)*	Soft / Broken Ground / Void (m)			Rock Cover (m)^^			Rock Cover Thickness Required (m)^
			From	To	Aggregate Height	From	To	Thickness	
No supplementary boreholes were drilled on-grid on the basis of the extent of working encountered									

*Including any topsoil, made ground, weathered natural strata, or fractured bedrock above the workings. Thicknesses are based on D&G's observations only.
^^Excluding recorded unsuitable cover thickness. Depth to engineering rockhead from surface is unknown.
^Cover thickness required assumes 10x the recorded aggregate height of workings in accordance with Parry, D. and Chiverrell, C. (eds) (2019).

In summary, a total of thirty on-grid positions were bored, with records provided by D&G indicating that a total of 480.0m of drilling was completed. Of these boreholes, twenty-five (~83%) recorded intact strata and coal, three (10%) recorded soft strata, and two (~7%) recorded broken ground. Where soft strata was recorded, no loss of flush was noted.

Contrary to the findings of the initial investigation, no voids were noted in any position.

2.2 Other Mining Legacy & Geological Features

Faulting

No evidence of displacement because of faulting was noted within the coal seam encountered during the works. The depths to working were largely consistent and appeared to be concomitant with the general dip of the bedrock.

2.1 Ground Gas

Throughout the works, monitoring for ground gases was undertaken by D&G at the drilling rig. Groundsmiths have been informed that no harmful levels of ground gas (i.e. CO_2, CH_4 and/or H_2S) were measured at any time during the works.

2.2 Grouting

The 'stabilisation' works undertaken were designed to consolidate workings identified. Cement used in the grouting operation was Ordinary Portland Cement (OPC) complying with BSEN197-1 [3]. Pulverised Fuel Ash (PFA) was sourced from Uniper UK at Ratcliffe Power Station, Nottinghamshire.

The grout mix used throughout the works was G10. This mix is considered acceptable for the pressure grouting of soft strata, broken ground, and for the filling of localised voids, given the ground conditions encountered. Individual grout takes for each borehole are indicated on the grouting records in Appendix B, and summarised below in Table 2.3, below and overleaf.

Table 2.3 - Grout Take Summary

Position on Grid	Date(s) of Treatment	Grout Volumes Injected (T)	Total Grout Volume (T)	Grout Type	Comment
A1	29.05.25	0.11	0.11	G10	Intact coal position
A3	29.05.25	0.11	0.11	G10	Intact coal position
A5	29.05.25	0.11	0.11	G10	Intact coal position
A7	29.05.25	0.11	0.11	G10	Intact coal position
A9	29.05.25	0.11	0.11	G10	Intact coal position
C1	29.05.25	0.11	0.11	G10	Intact coal position
C3	29.05.25	0.11	0.11	G10	Intact coal position
C5	29.05.25	0.11	0.11	G10	Intact coal position
C7	29.05.25	0.11	0.11	G10	Intact coal position
C9	29.05.25	0.11	0.11	G10	Intact coal position
E1	29.05.25	0.11	0.11	G10	Intact coal position
E3	29.05.25	0.11	0.11	G10	Intact coal position
E5	29.05.25	0.11	0.11	G10	Intact coal position
E7	29.05.25	0.11	0.11	G10	Intact coal position
E9	29.05.25	2.2	2.2	G10	Broken ground position
G1	29.05.25	0.11	0.11	G10	Intact coal position
G3	29.05.25	0.11	0.11	G10	Intact coal position
G5	29.05.25	0.11	0.11	G10	Intact coal position
G7	29.05.25	0.11	0.11	G10	Intact coal position

Table Contd./

Position on Grid	Date(s) of Treatment	Grout Volumes Injected (T)	Total Grout Volume (T)	Grout Type	Comment
G9	29.05.25	0.11	0.11	G10	Intact coal position
J1	29.05.25	0.11	0.11	G10	Intact coal position
J3	29.05.25	0.11	0.11	G10	Intact coal position
J5	29.05.25	3.3	3.3	G10	Broken ground position
J7	29.05.25	0.55	0.55	G10	Soft strata position – no loss of flush
J9	29.05.25	0.55	0.55	G10	Soft strata position – no loss of flush
L1	29.05.25	0.11	0.11	G10	Intact coal position
L3	29.05.25	0.11	0.11	G10	Intact coal position
L5	29.05.25	0.11	0.11	G10	Intact coal position
L7	29.05.25	0.55	0.55	G10	Soft strata position – no loss of flush
L9	29.05.25	0.11	0.11	G10	Intact coal position

On the basis of grout data provided by D&G, it is indicated that approximately 11.0 Tonnes of grout (with some extra to top-up following settlement in the borehole tops) was injected into the boreholes on-grid.

Generally the grout take to each position was low at between 0.11 Tonnes across the Site, with only the two broken-ground positions (E9 and J5) taking 2.2 and 3.3 Tonnes, respectively. Where soft strata was recorded, these each took 0.55 Tonnes.

2.3 Validation

Details with respect to field tests performed by D&G are provided in Appendix C.

Flow Testing

Two slump tests were completed during the works.

The grout mix used produced sufficiently pumpable grout with flowability readings of between 430mm and 490mm (average = 460mm). This is consistent with the typical range for flowability which may be between 300mm and 600mm when measured in a meter of the "Colcrete" type. This is within the range specified in the Specification.

Bleed Testing

A general requirement for grouting is the avoidance of high bleed grouts. This is because they do not fill workings efficiently and the consequence is supplementary drilling and grouting at greater cost. Bleed capacity was to be limited to a maximum of 5.0%, as stated in the Specification.

Two bleed tests were completed during the works with these being carried out over a 6 hour test period in each instance. The bleed capacities were recorded as being 3.0% on each occasion. This is consistent with the specified range.

Cube Testing

In order to determine the compressive strength of the grout, four 100mm specimen cubes (BHF-1 to BHF-4) [4] were made on the 29th May 2025 for the purposes of crushing. All testing was carried out by SOCOTEC UK Limited, Warrington, in accordance with BS EN 12390 [5,6].

Test results are provided in Appendix C for reference but indicate that the compressive strength of the grout cubes ranged between 1.0MN/m^2 and 2.1MN/m^2 at up to 29 days after batching. The overall average strength is reported as being 1.42MN/m^2, which exceeds the minimum compressive strength requirement for grout as stated in the Specification.

Check Drilling (Test Holes)

In order to assess the standard of grout consolidation undertaken, a total of six non-production test boreholes were drilled at selected positions across the treatment area to assess grout permeation into the workings. Pressure was applied to each and every test position so that further assessment of grout take, and whether consolidation of the workings had been achieved, could be made. The location of the test positions are shown on Figure 0525-03-003.

Individual records for the drilling and grouting of the test holes are provided in Appendices A and B, respectively, but indicate the presence of grout in holes other than where intact coal was recorded. A nominal grout take was recorded for each of the test holes during reinstatement, which indicates that there was no significant grout loss into any untreated surrounding soils, and all pressures held above 1.0 bar for more than five minutes. A summary of the grout takes for these positions is given in Table 2.4, below.

Table 2.4 - Grout Take Summary

Position on Grid	Date(s) of Treatment	Grout Volumes Injected (T)	Total Grout Volume (T)	Grout Type	Comment
TH-1	29.05.25	0.11	0.11	G10	Pressured to 1.0 bar
TH-2	29.05.25	0.22	0.22	G10	Pressured to 1.2 bar
TH-3	29.05.25	0.22	0.22	G10	Pressured to 1.0 bar
TH-4	29.05.25	0.22	0.22	G10	Pressured to 1.3 bar
TH-5	29.05.25	0.22	0.22	G10	Pressured to 1.1 bar
TH-6	29.05.25	0.11	0.11	G10	Pressured to 1.3 bar

3 CONCLUSIONS

All reasonable attempts have been made by D&G to consolidate the mining legacy encountered during the works, with boreholes being taken down through the floor of the deepest underlying coal to competent ground below. Works were undertaken in accordance with the established methodologies prescribed for the treatment of shallow mining legacy, as are routinely undertaken on development sites affected by instability.

Borehole spacings to cover the development were prescribed in the Specification, taking note of any protection requirements. It is understood that no objections to the approach to be taken were raised by the regulators or other such third party.

As indicated herein, a total of thirty on-grid positions were completed to facilitate the consolidation works for the Site. Most of the borehole positions encountered solid and intact coal to depth, but where workings were proven these were located largely beneath the proposed treatment/store room part of the development.

Although a few of the grout positions recorded higher than background take volumes (e.g. E9, J5) the overwhelming majority of the boreholes recorded low to nominal amounts. No voids were encountered in any of the on-grid positions.

The completed test positions confirmed that grout was present in the workings, but that solid intact coal was also encountered. No loss of grout or pressure was noted when tested.

The drill and grout records and the field/laboratory test results indicate that grout consolidation in general accordance with guidelines prescribed in the aforementioned CIRIA documentation have been carried out to a standard consistent with the general approach taken for the treatment of shallow workings. On the basis of information provided by D&G, it is considered that the works presented herein demonstrate that betterment of the mining legacy to the Site has been achieved.

NOTE: All other assessments required to facilitate construction of the development should be completed by others as directed by the Client and lie outside the scope of this Report.

4 REGULATORY APPROVAL

This Report has been compiled in accordance with good practice guidance for the investigation, assessment, and management of land that has been or may be affected by ground stability hazards associated with mining legacy.

On the basis of Site specific data, it is considered that the Site may be determined as being safe and stable in accordance with the National Planning Policy Framework.

NOTE: In accordance with NPPF Paragraph 197, responsibility for securing a safe development rests with the developer and/or landowner.

The recommendations presented are considered reasonable on the basis of the provided information. However, it remains the responsibility of the Client to ensure that the Site poses no significant risk to any sensitive receptor(s) and that it remains aligned with the proposed end-use and assessment framework adopted in this Report.

If at any time in the future, additional information comes to light that puts into doubt the accuracy of the professional opinion or third party information presented herein, then it may be necessary to revisit the assessment.

Works undertaken cannot be guaranteed to gain approval by the regulatory authorities and / or your warranty provider, so copies of this Report should be made available to the relevant organisations for comment and approval, prior to undertaking any irrecoverable works associated with the Site.

5 REPORTING LIMITS

Groundsmiths were not involved with the assessment or implementation of the initial ground investigation works completed by RGS and GA, as they were commissioned independently.

Drill and grout operations were completed by D&G under direct commission with the Client. Groundsmiths had no influence over financial or contractual obligations between the Client and D&G with respect to the works carried out. Groundsmiths were appointed on a separate basis by D&G, care of the Client, with the aim being to provide a part-time oversight of the works and the verification contained in this Report.

The Mining Remediation Authority issued the requisite permit to facilitate the proposed treatment of mining legacy based upon the data and grouting layout provided in the Specification.

It is taken that all Site-specific data provided by D&G is reliable and representative of the ground conditions, mining legacy encountered, and the mitigation measures undertaken. It should be noted, however, that Groundsmiths cannot independently confirm all of the data so verification provided in this Report is given in good faith and is subject to the limitations and constraints imposed by the methods and information sources described. No responsibility can be accepted for errors or omissions in the data provided by D&G, or for any defects in D&G's workmanship.

Where any amendments to the work to be undertaken on-Site have been made, these were based on specific ground conditions encountered by D&G at the time.

Groundsmiths offer no indemnity for where grout consolidation works could not be successfully completed.

Groundsmiths were not retained or requested by the Client to provide comment or approval with respect to the foundations to be adopted for the development this Report relates. Such decisions lie beyond the remit of this Report and Groundsmiths' involvement with the project and are to be made by the Client in consultation with their appointed Designing Engineer as they deem appropriate. Where construction activities have occurred on Site prior to the issuing of this Report and its approval/review by relevant interested parties, all such works will have been completed at the Client's own risk.

Where opinions expressed in this Report are based on current available guidelines and legislation, no liability can be accepted for the effects of any future changes to such guidelines and legislation.

This Report does not constitute an invasive plant species survey, general ground investigation to facilitate foundation design, or contamination (soil and ground gas) assessment. Any comment given in relation to these is for information only. Further works to assess these may be required as part of any pre-occupancy planning condition and should therefore be undertaken by suitably qualified experts under instruction from the Client.

Groundsmiths reserve the right to edit and/or retract any comment or conclusion made in this Report should any further information, with respect to the Site, become available.

Groundsmiths disclaim any obligation to update the Report for events taking place after the time during which the works were carried out.

Groundsmiths do not provide or purport to provide legal advice. Should the Client require such advice then that of lawyers should be sought.

Groundsmiths accept no responsibility if any findings or recommendations given in this Report are not implemented by the Client or their agents.

Groundsmiths accept no responsibility if any further works, as requested by the Local Planning Authority in the discharge of their duty of care, are not implemented by the Client or their agents.

This Report cannot be reassigned to a third party without consultation being made with Groundsmiths. A nominal fee would be applicable in such instances for each reassignment. Please contact us to discuss.

6 INFORMATION SOURCES

The following references have been cited in the production of this Report:

1 Groundsmiths (UK) Ltd (2025). Treatment of Mine Workings Specification. Batley Hall Farm, Batley. Ref: GUK-0525-03/Rp-001/V1, dated 19th May.

2 Rogers Geotechnical Services Ltd (2024). Phase 1 Environmental Desk Study & Coal Mining Risk Assessment. Old Hall Stables, Timothy Lane, Upper Batley, West Yorkshire, WF17 0BA. Ref: C4308/24/E/6602, dated 24th May.

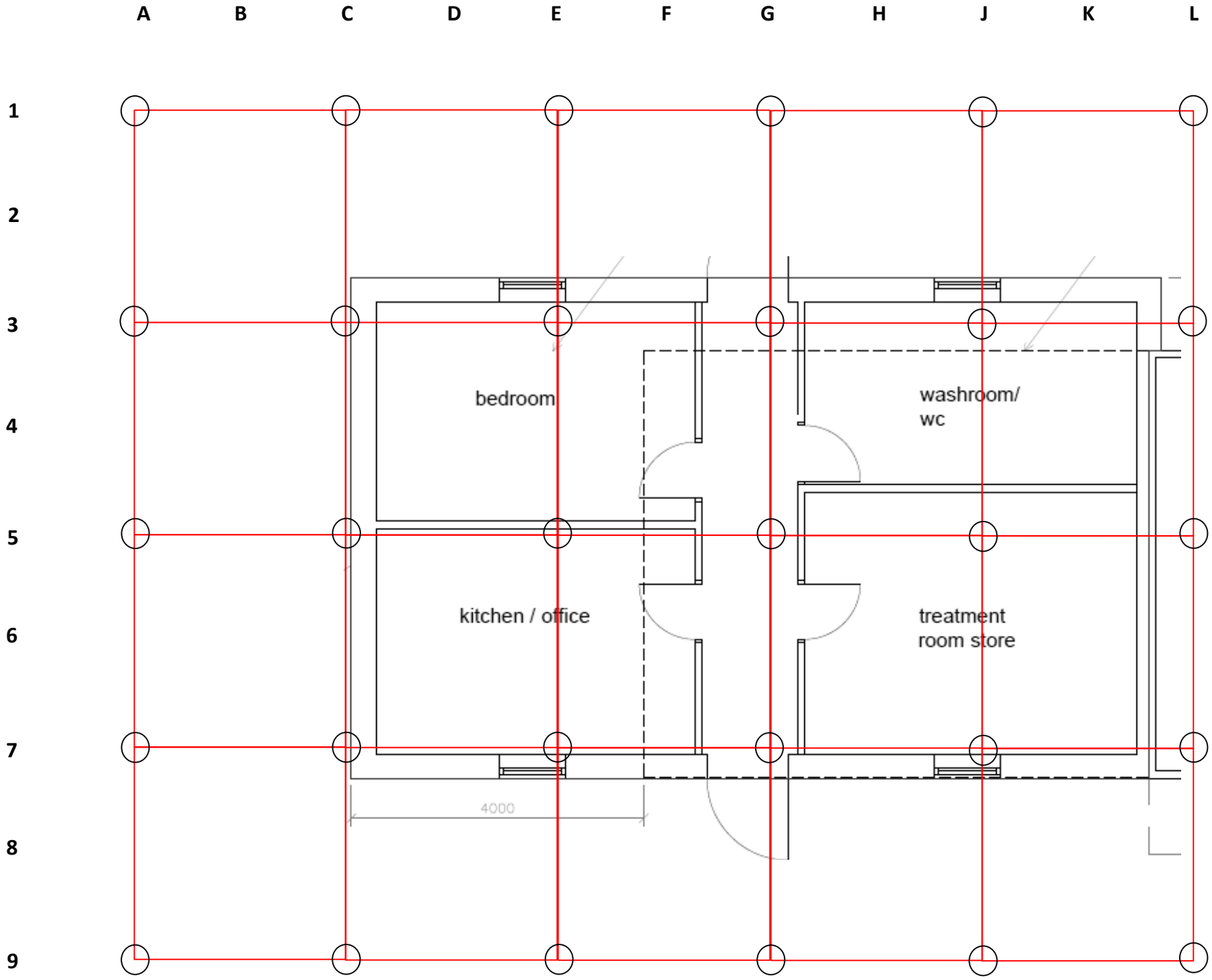
3 BS EN 197-1 (2011: incorporating corrigenda November 2011, October 2015 and February 2019). Cement. Part 1: Specifications and Conformity Criteria for Common Cements.

4 BS EN 12390-2 (2019). Testing Hardened Concrete. Making and Curing Specimens for Strength Testing.

5 BS EN 12390-3 (2019). Testing Hardened Concrete. Compressive Strength of Test Specimens.

6 BS EN 12390-7 (2019). Testing Hardened Concrete. Density of Hardened Concrete.

FIGURES & DRAWINGS



○ Proposed grout injection borehole position @ 3m centres.

NOTES:

1. Grout injection borehole positions are to be established on site by D&G.

2. Primary grout borehole positions are 3m centred square grid pattern beneath the structure, extending to 3m beyond each building line where possible. Some positions may need to be moved or drilled on an angle, subject to any access constraints.

3. Any additional infill grout positions will need to be established by D&G, and in consultation with the Engineer, during the works if other significant workings are encountered or where grout takes are high.

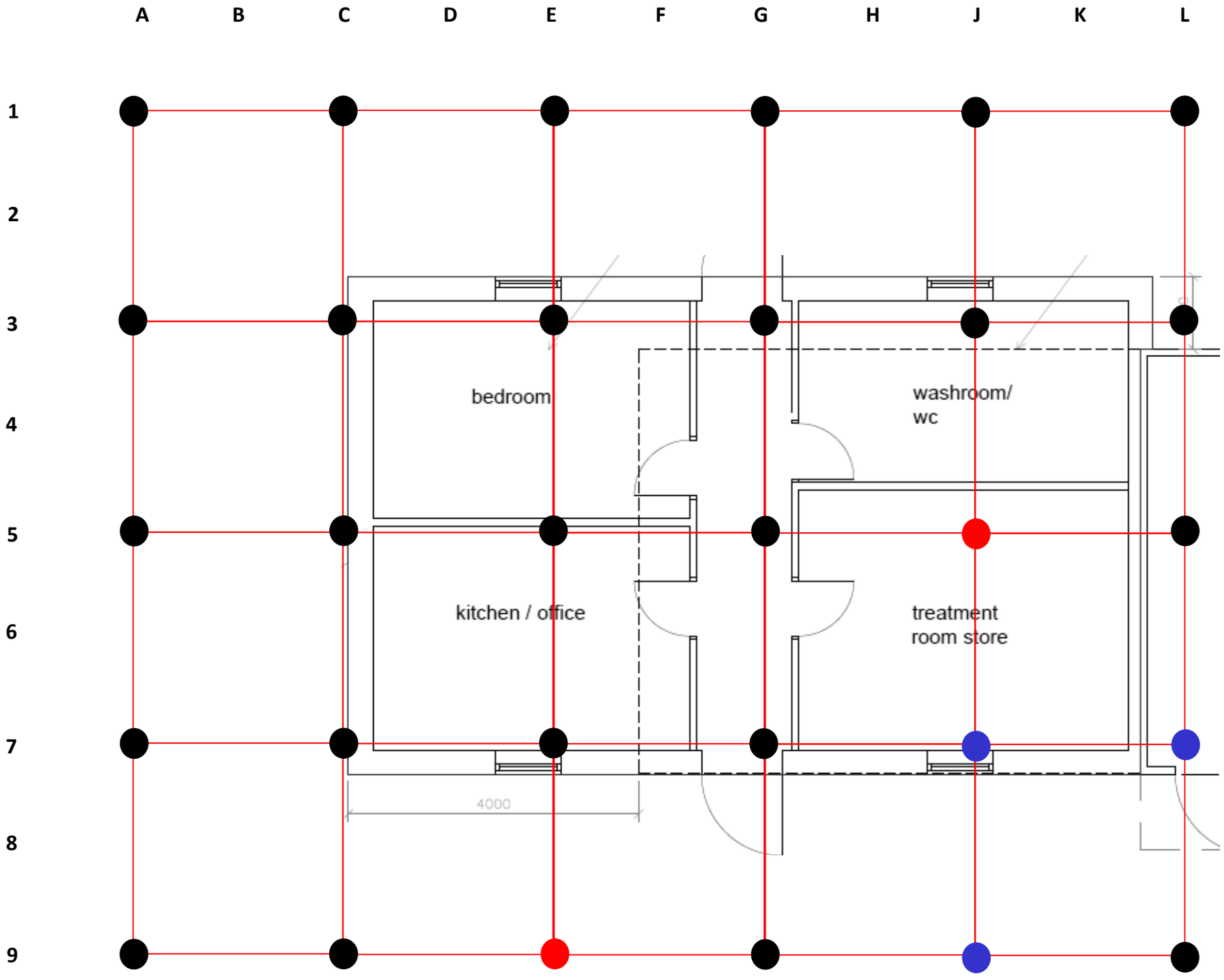
4. No secondary grid positions for external areas are proposed given the nature of the development and the use of the wider landholding;

5. Check-drilling positions will need to be established on the grid once all other grout positions have been completed.

Do not scale from this drawing

Source: DK Architects (2023). Equine Livery & Rehabilitation. Proposed. Ref: 23.2741.02, dated 6th December.

Project: Old Hall Stables, Batley		Client: Mr & Mrs Gaskin	
Drawing: Grout Positions Plan		Drawn/Checked: AJS	GROUNDSMITHS GEOTECHNICAL ENGINEERS
Project No: 0525-03	Drawing No: 001	Date: May 2025	



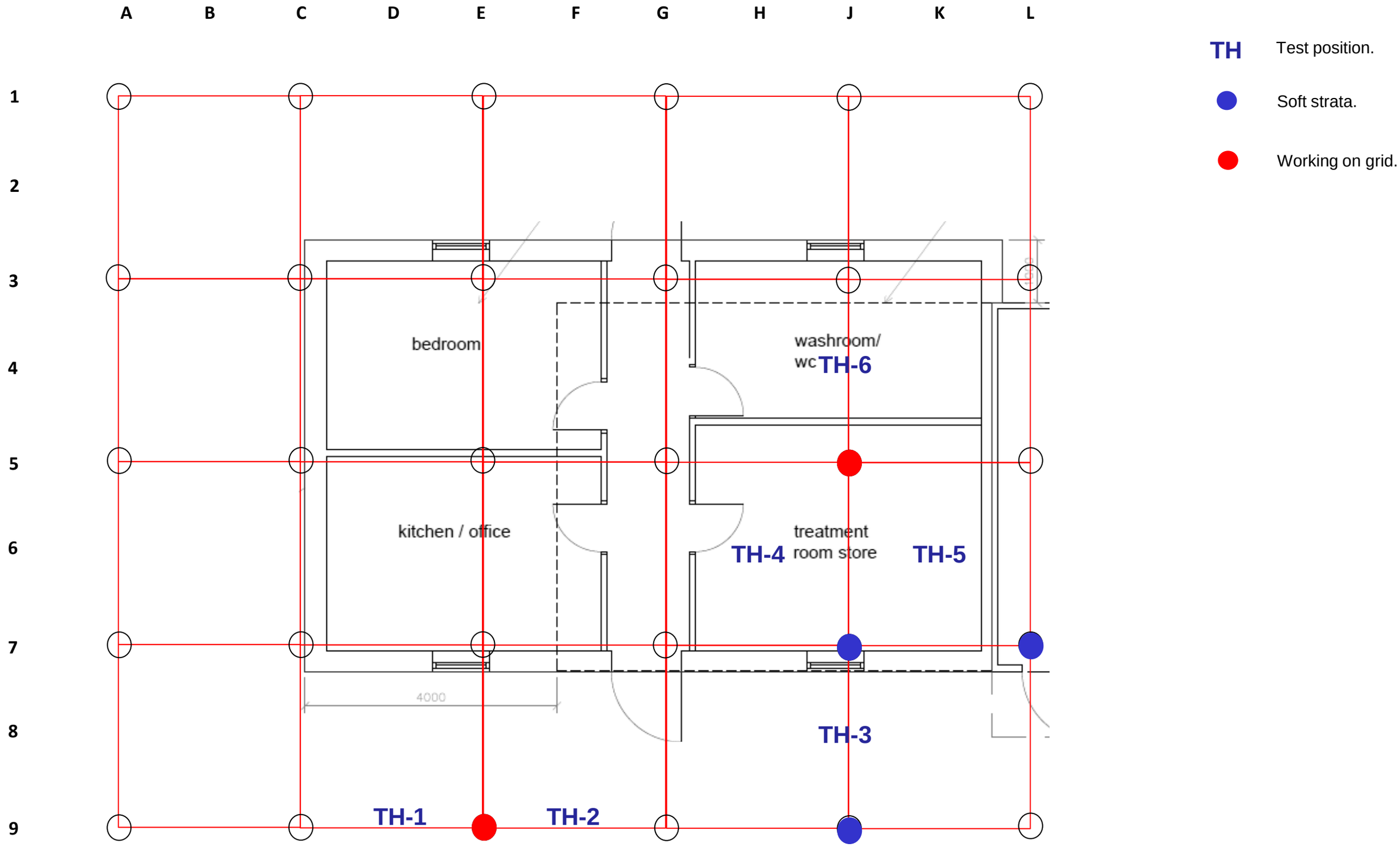
- Soft strata.
- Working on grid*.
- Void on grid.
- Working/void at same position on grid.
- Intact strata on grid.

NOTES:

* ‘Working on grid’ includes broken ground and where grout has been encountered during drilling in the seam at the point of testing.

Source: DK Architects (2023). Equine Livery & Rehabilitation. Proposed. Ref: 23.2741.02, dated 6th December.

Project: Old Hall Stables, Batley		Client: Mr & Mrs Gaskin	
Drawing: Workings on Grid		Drawn/Checked: AJS	GROUNDSMITHS GEOTECHNICAL ENGINEERS
Project No: 0525-03	Drawing No: 002	Date: July. 2025	



Source: DK Architects (2023). Equine Livery & Rehabilitation. Proposed. Ref: 23.2741.02, dated 6th December.

Project: Old Hall Stables, Batley		Client: Mr & Mrs Gaskin	
Drawing: Test Hole Positions		Drawn/Checked: AJS	GROUNDSMITHS GEOTECHNICAL ENGINEERS
Project No: 0525-03	Drawing No: 003	Date: July 2025	

APPENDIX A

D&G Drilling Records

Drillers log	Site: Bottley hall Farm	Sheet: 1 / 1
Rig: CG	Crew: DH, ~~DD~~	Date: 27-5-25

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
C1	0.00 - 0.90	Clay			
	0.90 - 6.80	Sandstone			
	6.80 - 11.40	Mudstone			
	11.40 - 12.00	Coal			
	12.00 - 30.00	Mudstone with			
		Sandstone Bands			
A1	0.00 - 0.80	Clay			
angle	0.80 - 6.90	Sandstone			
	6.90 - 11.50	Mudstone			
	11.50 - 12.00	Coal			
	12.00 - 15.00	Mudstone			
C3	0.00 - 0.90	Clay			
	0.90 - 6.70	Sandstone			
	6.70 - 11.50	Mudstone			
	11.50 - 12.00	Coal			
	12.00 - 15.00	Mudstone			
A3	0.00 - 0.90	Clay			
angle	0.90 - 6.80	Sandstone			
	6.80 - 11.30	Mudstone			
	11.30 - 11.80	Coal			
	11.80 - 15.00	Mudstone			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	4	75		
						Previous	—	—		
						To date	4	75		

Drillers log	Site: Battley hall Farm	Sheet: 1 - 3
Rig: C6	Crew: DH, DD	Date: 28-5-25

Equipment used:

BH	Depth	Strata Description
C5	0.00-0.70	Clay
	0.70-6.80	Sandstone
	6.80-11.00	Mudstone
	11.00-11.50	Coal
	11.50-15.00	Mudstone
A5 angle	0.00-0.80	Clay
	0.80-6.90	Sandstone
	6.90-10.90	Mudstone
	10.90-11.40	Coal
	11.40-15.00	Mudstone
C7	0.00-0.80	Clay
	0.80-6.90	Sandstone
	6.90-10.70	Mudstone
	10.70-11.10	Coal
	11.10-15.00	Mudstone
A7 angle	0.00-0.90	Clay
	0.90-6.80	Sandstone
	6.80-10.80	Mudstone
	10.80-11.20	Coal
	11.20-15.00	Mudstone
C9	0.00-0.80	Clay
	0.80-6.60	Sandstone
	6.60-10.70	Mudstone
	10.70-11.20	Coal

BH	Depth	Strata Description
	11.20-15.00	Mudstone
A9 angle	0.00-0.90	Clay
	0.90-6.90	Sandstone
	6.90-10.80	Mudstone
	10.80-11.30	Coal
	11.30-15.00	Mudstone
E1	0.00-0.80	Clay
	0.80-6.90	Sandstone
	6.90-10.80	Mudstone
	10.80-11.40	Coal
	11.40-15.00	Mudstone
E3	0.00-0.90	Clay
	0.90-6.70	Sandstone
	6.70-10.60	Mudstone
	10.60-11.00	Coal
	11.00-15.00	Mudstone
E5	0.00-0.80	Clay
	0.80-6.90	Sandstone
	6.90-10.70	Mudstone
	10.70-11.20	Coal
	11.20-15.00	Mudstone

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed

Totals	BH's	Drill	Case	Core
Today	20	315		
Previous	4	75		
To date	24	390		

Drillers log	Site: Batley Hall Farm	Sheet: 2 - 3
Rig: CG	Crew: DH	Date: 28-5-25

Equipment used:

BH	Depth	Strata Description
E7	0.00-0.80	Clay
	0.80-6.70	Sandstone
	6.70-10.70	Mudstone
	10.70-11.10	Coal
	11.10-15.00	Mudstone
E9	0.00-0.80	Clay
	0.80-6.80	Sandstone
	6.80-10.60	Mudstone
	10.60-11.10	Broken Ground
	11.10-15.00	Mudstone
L1	0.00-0.60	Clay
	0.60-6.30	Sandstone
	6.30-10.40	Mudstone
	10.40-10.90	Coal
	10.90-15.00	Mudstone
L3	0.00-0.90	Clay
angle	0.90-6.50	Sandstone
	6.50-10.60	Mudstone
	10.60-11.00	Coal
	11.00-15.00	Mudstone
S1	0.00-0.80	Clay
	0.80-6.70	Sandstone
	6.70-10.50	Mudstone
	10.50-10.90	Coal
	10.90-15.00	Mudstone
S3	0.00-0.70	Clay
	0.70-6.90	Sandstone
	6.90-10.60	Mudstone
	10.60-11.00	Coal
	11.00-15.00	Mudstone
S5	0.00-0.80	Clay
	0.80-6.70	Sandstone
	6.70-10.40	Mudstone
	10.40-10.80	Broken Ground
	10.80-15.00	Mudstone
L5	0.00-0.70	Clay
angle	0.70-6.80	Sandstone
	6.80-10.30	Mudstone
	10.30-10.80	Coal
	10.80-15.00	Mudstone
S7	0.00-0.90	Clay
	0.90-6.70	Sandstone
	6.70-10.10	Mudstone
	10.10-10.50	Soft Ground
	10.50-15.00	Hard Strata

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed

Totals	BH's	Drill	Case	Core
Today				
Previous				
To date				

Demolition & Geotechnical Limited

Drillers log	Site: Batley hall farm	Sheet: 3 - 3
Rig: C6	Crew: DH	Date: 28-5-25

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
L7	0.00 - 0.80	Clay			
	0.80 - 6.90	Sandstone			
	6.90 - 10.20	Mudstone			
	10.20 - 10.70	Soft Ground			
	10.70 - 15.00	Hard Strata			
L9	0.00 - 0.90	Clay			
	0.90 - 6.80	Sandstone			
	6.80 - 10.30	Mudstone			
	10.30 - 10.70	Coal			
	10.70 - 30.00	Mudstone with Sandstone bands			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today				
						Previous				
						To date				

Demolition & Geotechnical Limited

Drillers log	Site: Batley hall farm	Sheet: 1 - 1
Rig: CG	Crew: DH, ~~DD~~	Date: 29-5-25
Equipment used:		

BH	Depth	Strata Description	BH	Depth	Strata Description
S9	0.00 - 0.90	Clay	G3	0.00 - 0.80	Clay
	0.90 - 6.90	Sandstone		0.80 - 6.80	Sandstone
	6.90 - 10.20	Mudstone		6.80 - 10.40	Mudstone
	10.20 - 10.60	Soft Ground		10.40 - 10.80	Coal
	10.60 - 15.00	Hard strata		10.80 - 15.00	Mudstone
G9	0.00 - 0.80	Clay	G1	0.00 - 0.90	Clay
	0.80 - 6.60	Sandstone		0.90 - 6.90	Sandstone
	6.60 - 10.20	Mudstone		6.90 - 10.40	Mudstone
	10.20 - 10.60	Coal		10.40 - 10.90	Coal
	10.60 - 15.00	Mudstone		10.90 - 15.00	Mudstone
G7	0.00 - 0.70	Clay			
	0.70 - 6.70	Sandstone			
	6.70 - 10.20	Mudstone			
	10.20 - 10.70	Coal			
	10.70 - 15.00	Mudstone			
G5	0.00 - 0.90	Clay			
	0.90 - 6.80	Sandstone			
	6.80 - 10.10	Mudstone			
	10.10 - 10.60	Coal			
	10.60 - 15.00	Mudstone			

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	6	90		
						Previous	24	390		
						To date	30	480		

Demolition & Geotechnical Limited

Drillers log	Site: Batley hall farm	Sheet: 1 - 1
Rig: C6	Crew: DH	Date: 29-5-25

Equipment used:

BH	Depth	Strata Description	BH	Depth	Strata Description
TH1	0.00 - 0.80	Clay	TH4	0.00 - 0.80	Clay
	0.80 - 6.70	Sandstone		0.80 - 6.90	Sandstone
	6.70 - 10.60	Mudstone		6.90 - 10.40	Mudstone
	10.60 - 11.00	Coal		10.40 - 10.90	Soft Grout
	11.00 - 15.00	Mudstone		10.90 - 15.00	Mudstone
	0.00 - 4.50	cased with 88.9		0.00 - 4.50	cased with 88.9
	0.00 - 15.00	cleared BH & Casing's		0.00 - 15.00	cleared BH & Casing
TH2	0.00 - 0.90	Clay	TH5	0.00 - 0.70	Clay
	0.90 - 6.80	Sandstone		0.70 - 6.80	Sandstone
	6.80 - 10.50	Mudstone		6.80 - 10.30	Mudstone
	10.50 - 11.10	Soft Grout		10.30 - 10.70	Soft Grout
	11.10 - 15.00	Mudstone		10.70 - 15.00	Mudstone
	0.00 - 4.50	cased with 88.9		0.00 - 4.50	cased with 88.9
	0.00 - 15.00	cleared BH & Casing		0.00 - 15.00	cleared BH & Casing
TH3	0.00 - 0.80	Clay	TH6	0.00 - 0.90	Clay
	0.80 - 6.70	Sandstone		0.90 - 6.70	Sandstone
	6.70 - 10.10	Mudstone		6.70 - 10.50	Mudstone
	10.10 - 10.50	Soft Grout		10.50 - 10.90	Coal
	10.50 - 15.00	Mudstone		10.90 - 15.00	Mudstone
	0.00 - 4.50	cased with 88.9		0.00 - 4.50	cased with 88.9
	0.00 - 15.00	cleared BH & Casing		0.00 - 15.00	cleared BH & Casing

Casing / Water level details

BH	Casing Die	Casing Depth	Water Strike	Water Rise	Water Sealed	Totals	BH's	Drill	Case	Core
						Today	6	180	27	
						Previous	30	480	0	
						To date	36	660	27	

APPENDIX B

D&G Grouting Records

D & G UK

GROUTING LOG SHEET

SITE: Batley hall Farm

CREW INTIALS: DH, DD

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dobbs	

DATE: 29-5-25 | SHEET: 1 OF 2

GROUTING METHOD USED: ~~BAGGED GROUT~~ / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY	4.2	15		
DELIVERED PREVIOUS	/	/		
DELIVERED TOTAL	4.2	15		
TOTAL USED	1	10		
STOCK ON SITE	3.2	5		

DELIVERY TICKET DETAILS

BH REF	FULL	NOT FULL	P.S.I	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
A1 C1								
C3 A3								
C5 A5								
C7 A7								
C9 A9								
E1 E3								
E5 E7	/			2.75	0.25	2.5		
L1 L3								
S1 S3								
L5 L9								
G9 G7								
G5 G3								
G1								
E9	/			2.2	0.2	2		
S5	/			3.3	0.3	3		
S7	/			0.55	0.05	0.5		
S9	/			0.55	0.05	0.5		

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / (YES...)	NO / (YES...)	NO / (YES)
1-430 mm 2-490 mm	1-3 % 2-3 %	QTY 4

TODAY TOTAL	11	1	10		
PREVIOUS TOTAL	0	0	0		
TO DATE TOTAL	11	1	10		

D & G UK

GROUTING LOG SHEET

SITE: Batley hall farm

CREW INTIALS: DH

LEAD GROUTER INTIALS	LEAD GROUTER SIGNED
D. Dobbs	

DATE: 29-5-25 | SHEET: 2 OF 2

GROUTING METHOD USED: BAGGED GROUT / BULK GROUT

	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
DELIVERED TODAY				
DELIVERED PREVIOUS				
DELIVERED TOTAL				
TOTAL USED				
STOCK ON SITE				

DELIVERY TICKET DETAILS

BH REF	FULL	NOT FULL	~~PSI~~ Bar	GROUT QUAN (T)	CEMENT	BAG GROUT P.F.A	SAND	PEA GRAVEL
L7	/			0.55	0.05	0.5		
TH1	/		1	0.11	0.01	0.1		
TH2	/		1.2	0.22	0.02	0.2		
TH3	/		1	0.22	0.02	0.2		
TH4	/		1.3	0.22	0.02	0.2		
TH5	/		1.1	0.22	0.02	0.2		
TH6	/		1.3	0.11	0.01	0.1		

SLUMP TEST	BLEED TEST	CUBE SAMPLES
NO / YES...	NO / YES...	NO / YES
mm	%	QTY

TODAY TOTAL					
PREVIOUS TOTAL					
TO DATE TOTAL					

APPENDIX C

Field Test and Laboratory Test Results Summary

Demolition and Geotechnical Limited
Geotechnical and ground support foundation specialists
Unit D2B, Bryans Close, Harworth Ind Estate, Harworth, Doncaster, DN11 8RY
Phone: 07792 920 854

Slump and Bleed data

Site – Old Hall Stables, Timothy Lane, Batley

Client – Arthur Gaskin

Our Reference/s – BHF

Overview:

Slump and Bleed testing are additional measures of grout testing to ensure that the grout mixed is of a suitable viscosity and fluidity for the application at hand.

The specification provided by the engineer will dictate the tolerance the results are to fall within but the generally accepted tolerances are

Slump test – 300mm to 600mm

Bleed test – 3% to 5%

Cubes at 28 days should achieve a crushing strength of 1.0N/mm2 (based on G10 grout)

More recently we have seen some engineers stipulate that over a large enough sample size, due to the nature of the works, it is the average that is important. This has therefore been included in this data.

Results:

The average slump test result is 460mm

The average bleed test result is 3.0%

The average strength of the cubes with data available so far is 1.42 at 29 days.

The total amount of cubes taken was 4

Demolition and Geotechnical Limited

Geotechnical and ground support foundation specialists

Unit D2B, Bryans Close, Harworth Ind Estate, Harworth, Doncaster, DN11 8RY

Phone: 07792 920 854

No	Sheet Reference	Date	Tonnes	Slump	Bleed	Cube Site reference	Age at Test	Strength at test	Notes	Grout Type
1	n/a	29/05/2025	11	430-490	3 / 3					G10
		29/05/2025				BHF-1	15	1	Including Test Holes	G10
		29/05/2025				BHF-2	15	1	Including Test Holes	G10
		29/05/2025				BHF-3	29	2.1	Including Test Holes	G10
		29/05/2025				BHF-4	29	1.6	Including Test Holes	G10
Total			**11**	**460**	**3**	**4**	**22**	**1.42**		

Any queries on this information please contact us at the above number.

Thomas Perks

Managing Director

D&G Limited

SOCOTEC UK Limited
Unit E Broadheath Network Centre
Atlantic Street, Broadheath
Altrincham
WA14 5EW, United Kingdom
Telephone: 01925 286220

Concrete Test Report

TEST REPORT

UKAS TESTING 0001

Project Details

Client:	**DEMOLITION AND GEOTECHNICAL LIMITED**
Client Address:	GRANBY HOUSE HIGH STREET BAWTRY DONCASTER DN10 6BF
Project:	**P251402 - D&G Limited - Granby House, Bawtry, Doncaster**

Report Details

Report No.:	CONC:NOR25-06038-C0001
Report Date:	27/06/2025
Issue No.:	2
Recipients:	Thomas Perks

Field Details and Results

Location in Works: NONE GIVEN **Mix:** G10

Fresh Concrete Sampling performed by third party and not covered under this laboratory's accreditation

Sample ID: NOR25-06038-C0001 **Client Sample ID:** NOR069219

Compressive Strength of test specimens (100 mm Cube)

Making and initial curing of specimens for strength tests performed by third party and not covered under this laboratory's accreditation

Date Made: 29/05/2025 **Date and Time Received:** 03/06/2025 16:30

Laboratory Test Methods: BS EN 12390-7 - 2019, BS EN 12390-1 - 2021, BS EN 12390-3 - 2019

Specimen ID	Client ID	Age at Test (Days)	Test Date	Width/Depth/ Height (mm)	Density (kg/m³)	Failure Load (kN)	Compressive Strength (N/mm²)	Specified Strength (N/mm²)
007931\A	BHF-1	15	13/06/2025	100/100/100	1280	9.9	1.0	
Mass Determination: As Received.								
007931\B	BHF-2	15	13/06/2025	100/100/100	1210	9.7	1.0	
Mass Determination: As Received.								
007931\C	BHF-3	29	27/06/2025	100/100/100	1110	21.3	2.1	
Specimen Assessment: Damaged.								
007931\D	BHF-4	29	27/06/2025	100/100/100	1180	16.5	1.6	
Specimen Assessment: Damaged.								

Notes

The following apply unless otherwise stated in specimen notes:

Laboratory curing tank temperature range (°C): 18 to 22.
Specimen appearance as received satisfactory.
Specimens transported within 16 hours of making are classified as deviating from the standard requirements.

BS EN 12390-7 - 2019
Hardened concrete density test carried out in saturated condition.
Volume determined by measurement or designated size. Any fins removed by abrasive stone.
BS EN 12390-3 - 2019
Specimen failure normal, specimen appearance normal.

Signed:

Clive Marshall - Laboratory Manager

For and on behalf of SOCOTEC UK Limited
Certified that testing was carried out in accordance with the test methods identified herein. This test report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Signed Date: 27/06/2025

GROUNDSMITHS
GEOTECHNICAL ENGINEERS