

ANTHONY ROYLANCE

Chartered Civil Engineers & Construction Consultants

PRELIMINARY

ENGINEER'S REPORT

ON

SOMERVILLE - HARGATE DRIVE – HALE – WA15 0NL

ON

15/07/2021



1B, Market Avenue, Ashton-under-Lyne, Greater Manchester OL6 6AR

Telephone 0161 343 2724 Mobile 07957165324

Terms of Reference:

As requested, we have monitored the property over a period of 6 months so as to assess its structural integrity.

Brief Description of the Property:

The property is a substantial period villa constructed circa 1930, although it sits on a level site it is partially elevated.

It is constructed from stock brick, set in stretcher bonding so as to form 11" cavity walls; between first floor chamber level and roof eaves level the external faces are externally cement rendered.

The property, in the main, extends over two storeys, however a central section extends to within the roof void forming an attic third floor.

The front wall panel accommodates 2no. two-storey bay window structures, supported off plinth brickwork; spandrel panels between ground and first floor window openings are 'rosemary tile' hung off battens and timber framing

The roof is of traditional construction; timber rafters supported off intermediate timber purlins, all overlain by rosemary tiles.

The property affords a cellar area set approximately 2.5m below ground floor level.

With the exception of the cellar floor all remaining floors are of suspended timber construction.

Evaluation:

Assessing the floors at all levels, we noted that typically, the areas that did not overlay the cellar ran down, out of level, across their width towards the left hand gable (viewed externally).

In accommodating this settlement, the internal walls have displaced and cracking to the same is evident in many areas (over the monitoring period some cracks have extended in length)

Inspecting the roof timbers, we noted they had been compromised by fungal and infestation attack, they did not appear to be 'fit for purpose' (This has been confirmed in a Timber Specialist Report obtained by yourselves)

The cellar floor, founded at 2.5m below ground level was found to be structurally sound.

Trial Pits and Boreholes:

Trial holes were excavated in the footpath adjacent to the left hand gable; the foundations were noted to be a 'brick spread' footing founded at a depth of 375mm

The ground formation beneath the footing was noted as being primarily loose ash beneath a tarmacadam surface layer.

A single Borehole was taken within the garden area adjacent to the left hand gable (See Appendix A / Borehole log)

The borehole confirms that the cellar is founded on a formation of loose-medium dense sand with an approximated bearing pressure of 100 kn/square metre.

The trial pit revealed that the shallower foundations were founded on loose, presumably backfilled ground.

Conclusions and Recommendations:

The property, as previously discussed, is founded at two levels: a lower cellared area and shallow brick spread footings.

The cellar would have been constructed within an open working with 'battered sides' (sloping) the ground would subsequently have been backfilled to existing ground floor level.

The shallow footings are founded within this backfill material and as a consequence have suffered differential settlement. The walls above have, as consequence, cracked in numerous locations, as previously described.

We would recommend:

- a) The brick spread footings are suitably underpinned, However, serious consideration should be given that these works include the cellar area, as its formation will become relatively weaker and future differential settlement may occur within the section of the dwelling.

- b) From confirmation from your Timber Specialist the existing roof timbers and indeed a large section of the suspended floors are 'not fit for purpose'. These should, therefore be dismantled and replaced

Comment:

It is our opinion that consideration should be given to the total demolition of the dwelling. The building is bordering on a dangerous state. Widespread failures across all its structural components are evident and efforts to rectify the same may result in partial collapse of what can already be described as a potentially dangerous structure.

The building's foundations, in the context of the poor ground conditions, are inherently defective and deterioration in the building's fabric will continue until such time the building will be deemed unfit for habitation.

General Remarks:

This report shall be for the private and confidential use of the client for whom it has been undertaken, together with any Building Society, Bank, or any other lender to whom an application has been made within 28 days of the report.

We would note that opinions expressed as to the likely reoccurrence of settlement is given in good faith in an attempt to assist the client. However, where such opinion is that further movement is unlikely this should not be taken as a guarantee.

Furthermore, we have not inspected woodwork, or any other parts of the structure that are inaccessible, therefore, we are unable to report that such areas are free from defect.

All other aspects of the property, other than are specifically mentioned, are excluded from this report.

We trust that this meets with your approval.

Yours faithfully

ANTHONY ROYLANCE

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Chartered Civil Engineer

Appendix A



Location **Somerville, Hargate Drive**

Client: Belmont Homes

Project Ref.:

Borehole No.

BH01

Equipment and methods **CDSa CDSo**

Drop Height 750mm
 Drop Weight Mass 64kg
 Cone Diameter 50mm
 Casing Diameter 115mm
 Casing Depth 3.00m

Job No.: **16.-761**

Start Date: 12/05/2021

Final Depth: 6.00m

Blows	Penetration mm / blows	N100 - Blows per 100mm	In situ Tests Samples		Description	Depth & Thickness m	Strata Reduced Level (m)	Legend
			[N300] {Cu}	Top Bottom				
				ES1	0.50 0.55	(0.60)	57.25	
			N16	S 1 D 2	1.00 1.00 1.45 1.00	(0.85)	1.0	
					Orange brown silty fine-medium SAND	1.45 (0.15)	56.40 56.25	
			N7	S 2 D 3	2.00 2.45 2.50	(1.20)	2.0	
			N10	S 3	3.00 3.45	2.80 (0.65)	55.05 3.0	
					Medium dense fine sandy SILT Recovery 0.65m Sampling Abandoned	3.45	54.40	
1 2 3 3 3 2 3 3 3 5 3 4 6 6 10 10 8 6 6 5 5 6 6							4.0 5.0 6.0 7.0 8.0	

Continuous Dynamic Sounding Complete

Remarks 1) Hand excavated services inspection pit to 1.2m
 2) Sampling abandoned at 3.0m wet fine sand jamming sampler and casing
 3) Continued using CDSo DPSH from 3.5 to 6.0m
 4) Water standing at 2.1m after pulling casing

Logged by **NFJ** Drilled by **GB**
 Ground level 57.85mAD
 Co-ordinates: