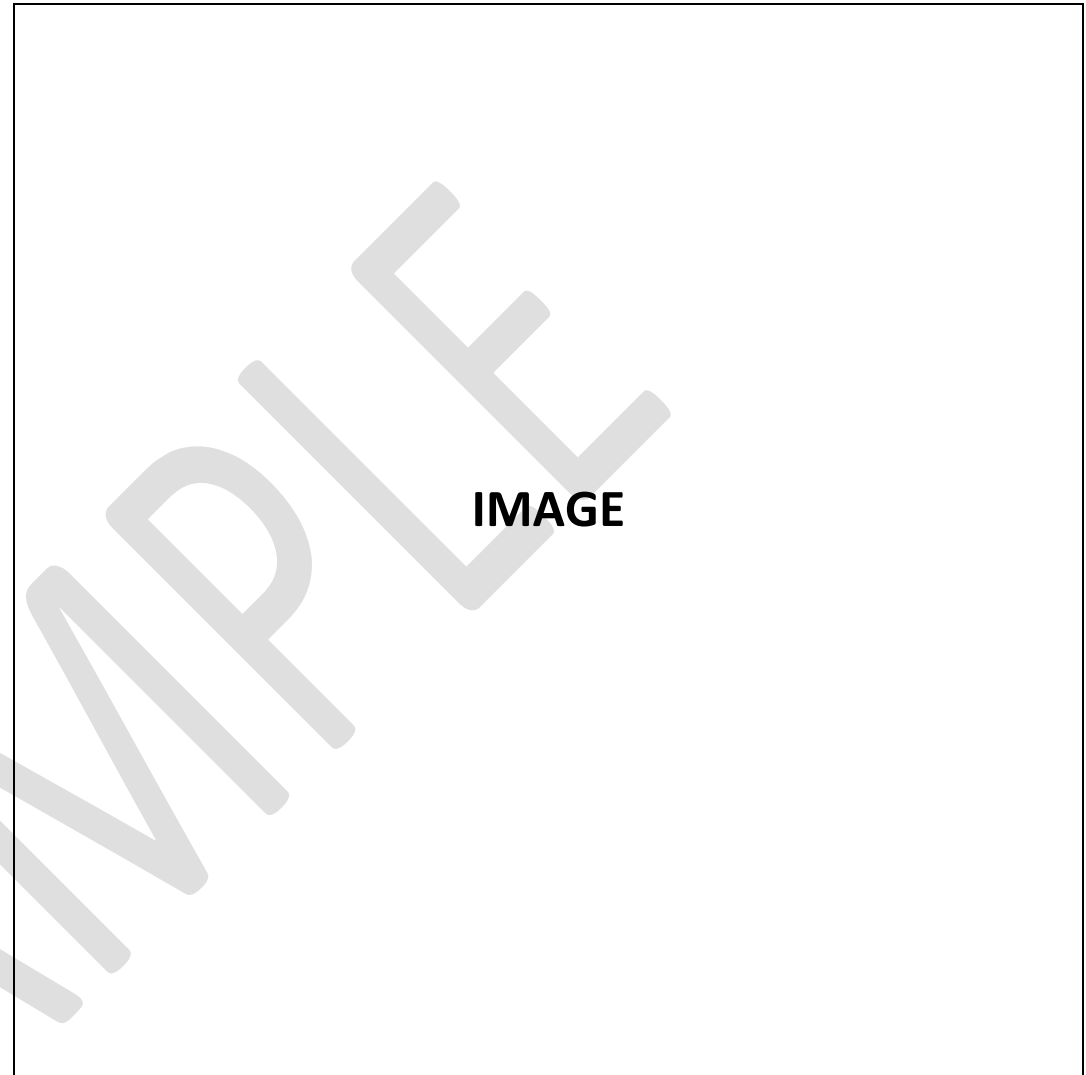


Property Address	23 Victoria Street Oldtown Anywhere
Customer	Mr J Harvey
Our Ref.	PXXXXX
Inspection Date	1 May 2019
Report Date	9 May 2019
Prepared by	Giles Ward MA CEng MICE Partner giles.ward@sereports.co.uk



Welcome

Firstly, thank you for instructing Structural Engineers Reports to prepare your Report. Our highly experienced chartered engineers have many years' experience of carrying out structural inspections on residential properties and, crucially, in writing reports that are clear and easy to understand.

We understand that having read your report you may have further questions, in which case please call us on 0333 772 0292 or email us at mail@sereports.co.uk and we will do our best to answer them. We have included space for you to write notes whilst reading the report to assist you with this process. We have also included a glossary of technical terms to help improve your understanding.

Our primary objective in writing your report is to address whatever issues may be of concern and to conclude by providing clear advice and recommendations. These are summarised on the next page. Your report has been prepared in accordance with our standard Terms of Business, key extracts of which are contained at the end of this report.

We want you to be entirely satisfied with the service that you have received from us so you will receive an email from our feedback partner with an invitation to a very short survey. Whatever you have to say, positive or negative, will help us to deliver the best possible service and show other customers how we perform.



Giles Ward
MA CEng MICE
Partner



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Summary

- Purpose of report:** General pre-purchase structural advice.
- Areas of concern:** Distortion/outwards movement of the main gable wall, especially in its central section.
- Recommended actions:**
- Remove plaster internally and render externally to a height of at least 1.2m in areas of distortion. Make good defects, re-building where necessary off foundations/cellar wall below.
 - Improve restraint to gable wall and bearing of first floor joists by strapping and screwing as detailed below.
- Conclusion:** The property appears to have a long history of movement and it is unclear whether this is currently ongoing. The proposed remedial works will however rectify the situation and, following their completion the property may be considered to be for all practical purposes stable. There would then therefore be no structural indications against its purchase nor reasons why it should not provide suitable security for a mortgage.

1. General/Background

- 1.1 In describing the property all references to front, rear, left and right assume that it is viewed from Victoria Street.
- 1.2 The property is a semi-detached house on three storeys, with a two storey rear projection.
- 1.3 To the rear of the two storey section there is a series of derelict single storey buildings. Given their condition, they have not been inspected in detail and are therefore excluded from the scope of this report.
- 1.4 The construction is conventional throughout and, as far as could be determined from a visual inspection, contains no unusual details or materials which might give rise to structural problems.

2. Topography/Geology

- 2.1 The site slopes down from right to left. The gradient is insufficient to cause problems that might be associated with slope instability. There are no topographical features nearby which might lead to foundation problems.

- 2.2 Data from British Geological Survey indicates that the underlying strata are likely to be Greenmore Rock, a sandstone deposit within the Pennine Lower Coal Measures formation. Bearing capacity of this material is likely to be adequate, and significant initial settlements under load would therefore be unlikely. Weathered, superficial sandy strata could however potentially be susceptible to the effects of excessive moisture, and it is therefore important that underground drains and water services are watertight in the vicinity of the foundations and that paved areas do not discharge water into the ground adjacent to the building.

3. Inspection

- 3.1 Significant distortions are apparent in the lower part of the main left gable wall, especially in its central section around the doorway. Measurements internally recorded an outwards lean at low level up to a maximum of about 1 in 30 directly above floor level in the front part of the rear ground floor room, although the lean diminished rapidly with increasing height such that the wall was vertical, within normal tolerances, above a height of about 1.0m.
- 3.2 Measurements on the wall externally indicated a slight smaller outwards lean, a maximum of about 1 in 60 being recorded adjacent to the door. The wall has however been rendered at some point, and it may be that the thickness of the render disguises a degree of previous movement.

- 3.3 There is a cellar below the front section of the property, the walls of which appeared to be at least 200mm thicker than those above ground level. The walls however showed no signs of a significant rotation equivalent to that above, although accurate measurements were difficult in view of their general unevenness.
- 3.4 The apparent rotation described above was matched by equivalent separations between the gable wall and internal cross walls at both ground and first floor levels, and the stair string on the flight leading to the second floor. Significant quantities of filler have been applied to the cracking at several locations, although the filler has generally been disturbed and re-cracked, suggesting a degree of subsequent movement.
- 3.5 The total extent of outwards movement is hard to determine, especially in view of the previous attempts at filling the gaps, but we would estimate it to be of the order of 50mm at its maximum, possibly diminishing slightly towards the upper part of the gable.

4. Discussion/Recommendations

- 4.1 The main three storey gable appears to have moved outwards, most significantly in its central section. The section of wall immediately above ground floor level has rotated, but the section above it appears to have remained approximately vertical during its outwards movement. It is unclear whether the rotation in the lower section is the cause of the outward movement, or vice-versa.
- 4.2 The first floor joists all appear to run from left to right and disturbance to the plaster work directly below the first floor suggests that the joists have remained stationary while the wall has moved outwards. It is therefore likely that the length of joist currently being supported by the external wall has been significantly reduced.
- 4.3 The reasons for the movement are uncertain. It does not however appear to be related to any movement of the foundations, as the cellar wall below the affected areas shows no signs of significant movement. We suspect that the problems may relate to an inherent issue with the original construction, but without further investigation including the removal of plaster and render and the excavation of trial holes it is not possible to be certain.

- 4.4 In order to rectify the situation, we would recommend the removal of plaster internally and render externally over the affected areas to a height of at least 1.2m, at which point defects and distortions in the underlying brickwork can be rectified. It is unclear at this stage whether wholesale re-building of the affected areas will be necessary but if so, it should be possible to achieve this by working on a small area at a time without the need for major propping works.
- 4.5 During the works, the reason for the distortions may or may not become apparent. They will however in any event be easily rectified once the affected areas are exposed.

Glossary

We always try hard to write our reports so that they are easy to understand. However, sometimes we need to use certain technical words to describe a property (or what is happening to it) which are explained below.

Airbrick	Honey-combed brick used to provide airflow, normally below floors.
Architrave	Decorative joinery internally around door frame.
Barge Board	Timber or UPVC cladding at edge of roof running from eaves to ridge level.
Battens	Timber members, tiles or slates are fixed to and are themselves fixed to the rafters .
Beam	A horizontal element designed to transfer loads to supporting walls or columns below.
Blockwork	Generally used for the inner leaf of cavity walls to more recent buildings, variety of widths, strengths and surface finishes.
Cavity wall	Wall with two leaves of masonry and gaps in-between. Gaps now generally insulation filled, to newer buildings. Cavity width varies generally with the age of the building.
Column	A vertical structural element designed to support the weight of the structure above.
Corbell	Masonry projection beyond the general face of the wall to support the construction above, often adopted as a feature at eaves level.
Coving	Plaster (occasionally polystyrene) moulding at the junction between wall and ceiling
Damp proof course	Barrier at bottom of walls to stop damp rising up the wall, variety of different types including blue brick, felt or PVC.
Eaves	At the junction of the roof with the external wall, may overhang and have a soffit board to the underside.
Efflorescence	White marks on the surface of a brick wall formed by crystallised salts following moisture evaporation.
Fascia	Boarding adopted at eaves level, often supports the gutter.
Flashing	Jointing material (typically lead) used at the junction of masonry and tiling such as around a chimney.
Flaunching	Mortar adopted around chimney pots to hold them in place and allow rain dispersal.
Foundations	Generally located below ground level to support the construction above. Can be constructed in concrete, brick or stone (see also raft foundations).
Gable end	Generally triangular upper section of wall masonry, abutted by roof.
Gulley	Opening into a subsurface drain, constructed in clay, concrete or uPVC.
Heave	Swelling of clay subsoil as it rehydrates (absorbs water), can cause upward and lateral movement to foundations and upwards movements to floors.
Hips	External junction between two roof slopes.
Joist	Structural timber member forming part of a flat roof or floor.
Landslip	Downhill movement of unstable earth, normally seen to steeply sloping ground, can be exacerbated/caused by heavy rain, excavation or a bank angle which is too steep.
Lath and plaster	Older type of ceiling /wall construction with timber strips fixed to underlying structure to carry the plaster.

Lintel	Beam spanning over a window or door, can be constructed in concrete, timber or steel.
Manhole	Inspection chamber allowing access generally to drains, constructed in uPVC, brickwork or concrete.
Mortar	Cementitious mixture used to join bricks or blocks. Older mortar often contains a high proportion of lime.
Mullion	Vertical member to a window.
Parapet	Low wall adopted as a feature at the edge of a roof.
Plasterboard	Gypsum based boarding fixed to underlying walls or ceiling construction and finished with plaster skim.
Purlin	Timber (or steel) member supporting the roof rafters .
Raft foundations	Horizontal concrete slab below a building used to support the walls and other elements above. Often also providing the ground floor
Raking cracks	Cracking through brick/blockwork running at approximately 45 degrees, typical of foundation movement
Roofing felt	Membrane used below the roof tiles and battens to prevent water ingress to the roof void. A secondary means of protection, the tiles themselves should be able to disperse the water. Often not present on older properties.
Rafters	Sloping timber members to the roof supporting the battens and the tiles above.
Roof trusses	Constructed in steel or timber, generally at regular centres to support the battens and the tiles above. Timber trusses are generally braced to improve their overall stability.
Soakaway	Used to discharge collected rainwater (from the gutters and downpipes) into the ground at some distance away from the property. The soakaway can be either a proprietary system or a hole filled with bricks/rubble.
Soffit	The underside of a component, such as a beam , arch, staircase, or cornice, or the underside of the eaves .
Soil and vent pipe	Drainage pipe above ground level, discharges foul water from a toilet or similar and also provides ventilation to the drainage system.
Solid wall	External or internal wall without a cavity. Generally 9" wide to external walls of older housing.
Subsidence	Downwards movement of the site beneath the foundations. Generally causes cracking to the property, slopes to floors and distortion to openings.
Valley	Gutter at the junction of sloping sections of the roof.

Our Services

1. Our structural engineers report will be based on visual observations of the property taken externally and internally. We must be provided with access to all necessary areas. We do not normally move furniture, lift floor coverings or make exploratory holes during an inspection. If our engineer considers that access to any area would be unsafe, or potentially unsafe, we will be unable to access the area until safety measures are arranged, which may incur an additional cost.
2. Our work will be carried out by a chartered structural or civil engineer. These are the required qualifications in situations where our report is requested in connection with a lending/ mortgage application.
3. Unless you instruct us to the contrary our report will cover the main load-bearing elements of the property. The inspection will however be limited to the main building and exclude any detached garages, outbuildings, walls, and fences etc. unless you specifically instruct us otherwise.
4. Our report will include details of the inspection, our conclusions on the findings and our recommendations for any further investigations, monitoring, repair or remedial works, or other action required.
5. In the event that our report recommends that further investigations are carried out these may include but are not limited to archive research, interviewing persons or organisations, making exploratory holes or excavations, opening up or taking apart, taking samples, undertaking tests and any other activities necessary to determine the extent and cause of the problem(s).
6. In the course of carrying out our work for you it may be necessary for independent contractors to be appointed to perform specialist services such as drains testing, soil testing or excavating trial holes. If so, we will advise you of the costs of the additional services and obtain your approval before proceeding. On completion of their work, we will settle the contractor's account directly and include their costs (along with a 10% administration charge) in our invoice to you.
7. Certain investigation work may cause damage - particularly to finishes and decorations. If you are not the owner of the property and you request us to carry out any investigation work this will indicate to us that you have all necessary permissions from the owner of the property for us to carry out the work. Reinstatement of damaged areas will be included only if specifically agreed.
8. Where estimated costs, budgets or allowances for building/remedial works are provided by us, these are only to indicate the likely order of costs. They should not be considered as an accurate assessment of costs and must not be relied upon as such. Due to the varying complexity of such works you are advised to obtain written estimates, quotations or tenders from suitable contractors with relevant experience before making any financial commitment.
9. We will not inspect the woodwork or other areas of the property which are covered, unexposed or inaccessible and our report will not therefore indicate that any such part of the structure is free from defect.
10. Our report will not include those aspects normally dealt with in a Building Surveyor's report, including but not limited to:
 - utilities / services, valuation, decorations, roof coverings and the like, the position of the property with respect to local amenities, the condition of the property with regard to dry rot, timber infestation, dampness and the like.
11. Furthermore, unless noted in the report to the contrary we will not consider matters such as contaminated land, asbestos or other potentially hazardous or deleterious materials which may have been used in the construction of the property.