



BOYDRORY STRUCTURAL

Consulting Structural Engineers
Structural & Foundation Engineering Design

The Old Town Hall, 2a High Street, Dronfield, S18 1PY



Report of a Visual Structural Survey
24th January 2020

of

170 Main Street, Grenoside, Sheffield S35 8PR

for

Ms Sarah Wasteney

Job No **2020-5**

Author

Date **February 2010**

.....**J R Boyd**
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Introduction

The purpose of this report is to advise regarding the structural condition of the building which was built late 19th early 20th century.

The property is a two bedroom, two storey plus cellar, detached building, with external thick solid stone walls & pitched slated roofs.

The front elevation is Ashlar coursed stone.

The basement extends under part of the building footprint.

PHOTOGRAPHS

44 photographs were taken as shown in the attached PDF.
The structural defects can be seen more clearly by zooming in on the photographs.

PHOTOGRAPH DESCRIPTIONS

The structural defects cracks can be seen more clearly by zooming in on the photographs

All views are relative to viewing towards the front elevation

1, 3, 4, 8 Loft – viewed to the left side gable wall

Partially collapsed brickwork & stonework where daylight is shining through. The wall significantly leans inwards approximately 300mm from the vertical plumb. A layer of blockwork has been built, possibly as a failed attempt to repair the wall. There is no diagonal roof bracing restraining the wall which is normal for this age of building.

2 Loft

Shows the timber roof structure comprising 65mm x 180mm purlins, 55mm x 80mm rafters at 457mm centres & slate battens. There is no roofing felt beneath the roof slates which is normal for this age of building. All the cement mortar parging between the roof slates & battens has dislodged.

5, 10 Loft

Holes in the roof where daylight is shining through.

6, 7 Loft

This is the front section of the roof area.

9 Loft

Standing rainwater from roof leaks on the polythene cover over the first floor ceiling.

11, 12, 13 Loft – viewed to the right side gable wall

The roof is significantly distorted.

The stone gable wall is leaning outwards significantly, approximately 300mm from the vertical plumb.

14, 16 Front / Right Side Gable Elevation

The stone gable wall is significantly distorted above eaves level. The wall is leaning significantly outwards, approximately 300mm from the vertical plumb.

15 Front / Left Side Gable Elevation

The stone gable wall is leaning significantly inwards being most prominent at the top of the chimney breast.

The maximum inward lean is approximately 300mm.

PHOTOGRAPH DESCRIPTIONS

17, 18, Front Porch

Faulty rainwater pipe disposal system.

19 Right Side Gable Elevation

Cracks in the stonework mortar joints.

20, 29, 30 Rear / Right Side Gable Elevation

Rear kitchen bay window cantilever structure.

The soil & vent pipe terminates at bathroom window head level.

There is a horizontal crack at the rendered wall junction with the ground floor with green mould growth below.

21 Rear Elevation Kitchen Bay Window Cantilever Structure

22 Cellar Door Timber Lintel

The timber has significant woodworm infestation.

23 Front Elevation Wall Section Enclosed By The Porch

24, 25 Ground Floor living Room

Timber framework supporting the first floor & internal walls.

26, 27, 32, 33 Ground Floor Kitchen

Viewed to the rear wall cantilever bay window structure.

Significant damp throughout with mould growth covering on the walls.

28 Stairway To The Cellar

31 Ground Floor Living Room

Severe damp on the walls

34, 35 Front Bedroom

Significantly deflected ceiling.

Significant damp & mould growth on the walls.

36, 42 Stair Side Wall – right side gable wall

The wall is noticeably bowed horizontally & distorted.

37 First Floor Landing - entrance doorway to the small central bedroom

Significant damp & mould growth on the internal wall.

38, 39, 40 First Floor Small Central Bedroom

Significant damp & mould growth on the walls.

The ceiling is significantly deflected.

PHOTOGRAPH DESCRIPTIONS

41 First Floor Rear Bathroom

Significant damp & mould growth on the walls.

43, 44 Cellar & Ground Floor Timber Joists

CONCLUSIONS & RECOMMENDATIONS

The photographs clearly show the building in a severely dilapidated, **dangerous** condition.

Both side gable walls lean significantly, approximately 300mm from vertical plumb, in the same horizontal direction. The lean is from roof eaves to verge, ridge & chimney breast top level.

This is considered the result of historic coal mining subsidence & the absence of roof tie lateral bracing restraint.

These two triangular shaped sections of thick stone wall require removing & re-building. This would firstly involve erecting scaffolding secured to the walls. However, the walls are in such a **STRUCTURALLY DANGEROUS** condition, that erecting scaffolding would be a **Severely High Health & Safety Risk, TOO HIGHLY DANGEROUS** to scaffold erectors.

As the building is adjacent the Main Street public footpath & road, the building is presently a **DANGER TO THE PUBLIC & VEHICLES**.

I therefore recommend that the building be control demolished as a matter of **URGENCY**. The initial demolition of the highly dangerous upper side gable wall sections, should be executed by a pecker machine stood at a safe distance from the walls. The controlled demolition to be strictly in accordance with BS 6187 Code of practice for full & partial demolition & HMHSE Construction Design & Management Regulations.

There are many other severe internal structural & damp defects as shown in the photographs. These generally comprise the absence of roof bracing, dangerously deflected first floor ceilings, internal timber ground floor frames supporting the first floor & internal walls over openings, woodworm infestation, severely damp walls & floors with mould growth. The timber ground floor frames would be difficult to justify structurally. However, all these defects are overridden by the two highly dangerous side gable walls which is the deciding factor in requiring the demolition of the building.

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4. The examination has included as much of the locally relevant surface areas as practicable.
5. The examination does not include those areas that are covered, unexposed or not readily accessible including fixtures & fittings. Those parts which have not been examined should not be considered as being free from defects.
6. The examination has not included external drainage, electrical, gas, water supply or other services, fixtures and fittings.
7. The report has been prepared based upon visual inspections. A detailed examination of components, supports, connections etc, which are inaccessible, has not been carried out.
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