BAT SURVEY REPORT

Fitzwilliam Arms, Hill Street, Elsecar, Barnsley

Produced by: Protected Species Surveys
Contact: Email: protectedspsurveys17@gmail.com
Client: Mr M Monfredi

Location: Fitzwilliam Arms, Hill Street, Elsecar, Barnsley
Date: January 2025

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FIGURES

1.0 INTRODUCTION

1.1 Protected Species Surveys was instructed by Mr M Monfredi to carry out an Preliminary Roost Assessment (PRA) at Fitzwilliam Arms off Hill Street in Elsecar, Barnsley. The PRA building assessment was undertaken to assess the building for its potential to support roosting bats. The PRA survey was requested by Barnsley Metropolitan Borough Council (BMBC) during works to carry out remediation works to former public house to make safe the structural integrity of the building following. Structural Engineering reports from 2022 and 2024 have provided evidence of possible collapsed of the roof and gable structures (Appendix A). During the remediation works it was brought to Mr Monfredi's attention a PRA would be required, as such all works were halted until the results of the PRA survey were provided and commented on by BMBC.

1.2 The surveyor has over 16 years experience in the field of Ecological Consultancy experience and has held a Level 2 Natural England bat licence bat license for 14 years (Ref: 2015-10587-CLS-CLS).

1.3 The site is located along the southern edge of Elsecar with Hill Street present along the eastern boundary of the site. A carpark is located adjacent the northern aspects of the buildings further adjoining residential housing. Grazing pasture borders the west and southern aspects. Residential housing associated with the Elsecar is present to the northern and east leading to the wider area. The site is centred on grid reference: SE 381 003 (Figure 1).

Site Proposals

1.4 Current proposals comprise the partial demolition of the former Fitzwilliam public house to deal with health and safety concerns regarding the structural integrity of the building to then be converted to living accommodation, and conversion of the outbuildings to living accommodation.

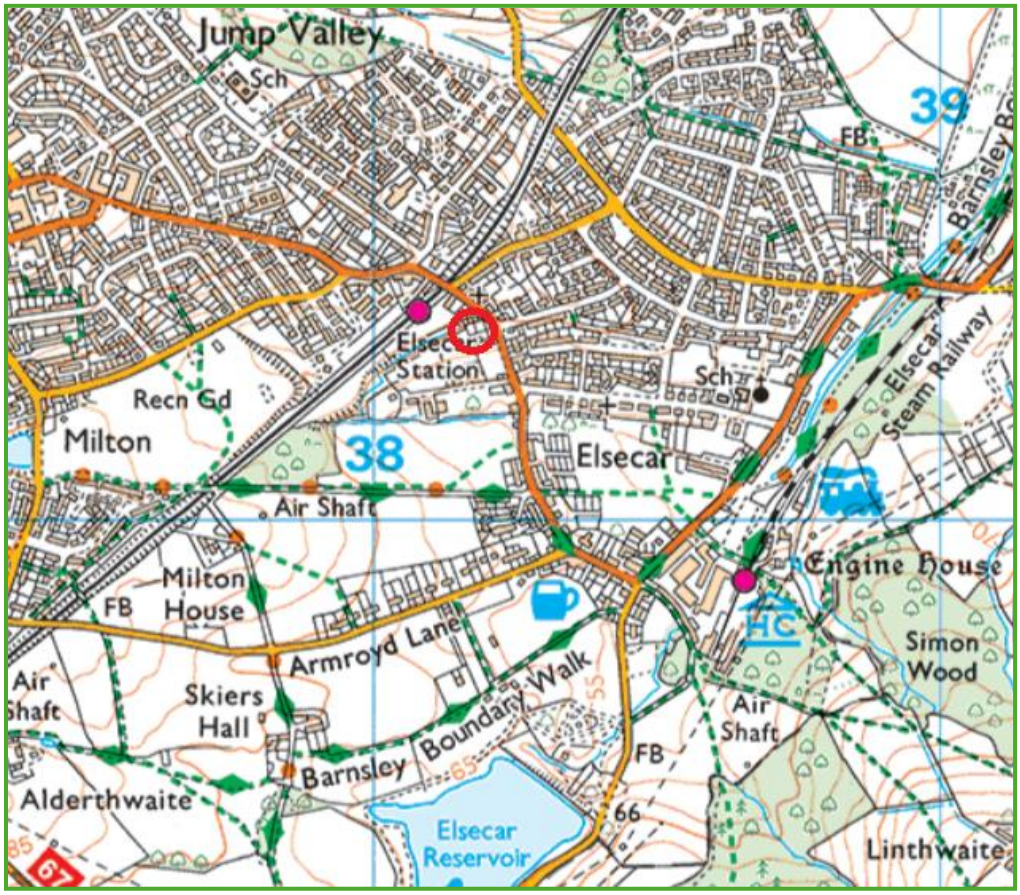


Figure 1: Site Location (highlighted by red line)

2.0 METHODOLOGY

External / Internal Building Assessment

2.1 The PRS survey was carried out on 18th January 2025 comprising an internal / external building assessment to search for potential bat access points and evidence of bat activity in accordance with BCT, 2023[1].

2.2 A licensed bat worker from Protected Species Surveys (Natural England Licence Number: 2015-10587-CLS-CLS) with over 14 years' experience of bat work completed the building assessment of all buildings affected by the proposals within the site boundary.

2.3 The external elevations of the buildings were assessed for features that could provide suitable access points for bats. Such features comprise:

- small gaps at the eaves;
- gaps underneath over lapping asbestos roof sheeting;

[1] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edn). Bat Conservation Trust, London.

- gaps under lifted and raised flashings;
- gaps in stonework and masonry where degradation of mortar has occurred.
- gaps around or over the top of doors;
- gaps at broken or missing windows;
- gaps around wall ventilation points;

2.4 The internal building survey was focused on roof timbers and other cavities where bats could potentially roost. During the survey the evidence of current or previous occupation by bats was sought. Such evidence comprised:

- the presence of dead or live bats;
- concentrated piles or scattered bat droppings;
- food remains such as insect wing fragments;
- urine staining on woodwork, stored items or pipe work.

2.5 Where access to potential access points was possible a full inspection using an endoscope was completed to identify current or previous evidence of use such as the physical presence of bats or bat droppings. Indicators that potential access points had not recently been used included the presence of cobwebs and general detritus within the access. From this, features of likely / potential value for bats can be broadly identified and a decision made over the selection of locations for more detailed work if required.

3.0 RESULTS

Preliminary Roost Assessment Survey

3.1 Building 1 (B1) was a three-storey former public house (Fitzwilliam Arms) with a slate clay tiles roof (Photo 1). As a result of partial remediation works the brick chimney has been removed along with a large section of roof tiles. A two-storey, brick-built extension adjoined the wester aspect of the building with a slate tiled roof. The exterior of the building was whitewashed. All windows were boarded to prevent vandalism of the building.

Photo 1: View of southern gable end of Building B1 (former Fitzwilliam Public House)

3.2 Internally no roof void was present with the ridge bean visible from the second-floor landing. The two southern gable end brick chimneys had been removed along with a large section of slate roof tiles (Photo 2). From the remaining section of roof remaining no underfelt was present with the wooden batons visible. The remaining roof appeared excessively cobwebbed with a heavy lining of detritus on exposed roof timbers.

Photo 2: View of Building B1 southern gable wall with both chimneys removed and clay roof tiles.

3.3 No internal / external evidence of use by bats was identified during the survey. The building was considered to offer negligible potential to support roosting bats.

3.4 Building 2 (B2) was a modern two-storey, brick-built building with a pitched slate tiled roof adjoining the western aspect of B1. The building appeared well maintained. Potential bat access points were limited to occasional gaps in missing mortar at the verge. No internal access was possible at the time of the survey.

Photo 3: View of Building B2

3.5 No external evidence of use by bats was identified during the survey. The building was considered to offer negligible / low potential to support roosting bats.

3.6 Building 3 (B3) comprised a two-storey, brick-built storage building with a pitched clay tiled roof with clay ridge tiles. No other structural features of note were recorded. Potential bat access points were observed within the slate tiles and beneath the ridge tiles and around the widen door. No roof void was present with the roof open to the ridge. The roof was not lined with the timber batons visible from within the building which was also heavily cobwebbed.

Photo 3: View of Building B3

3.7 No external evidence of use by bats was identified during the survey. The building was considered to offer low potential to support roosting bats.

3.8 Building 4 (B4) was a single-storey, brick-sided and slate tiled mono-pitched roof. The building appeared to be a former restaurant room with a timber front and glazed front. No external evidence of use by bats was identified during the survey. The building was considered to offer negligible potential to support roosting bats.

4.0 DISCUSSION AND RECOMMENDATIONS

Site Proposals

4.1 Current proposals comprise the partial demolition of the former Fitzwilliam Public House (B1) to make safe the structural integrity of the building for conversion to flats. Buildings B2, B3 and B4 are to be converted to living accommodation.

Bats

4.2 All species of bats are listed on the Conservation of Habitats and Species Regulations 2010 making it illegal to deliberately disturb any such animal or damage / destroy a breeding site or roosting place of any such animal. Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection.

4.3 The results of the 2025 PRA survey considered the partial remediation works carried out to date on B1 to make the building safe has rendered the building as offering negligible potential to support roosting bats. The only likely bat roosting opportunities would have been beneath the ridge tiles following the PRA survey. However, the ridge and roof tiles removed to facilitate the remediation works have opened the roof to varying weather conditions likely to resulted in the remaining area of roof unsuitable to support bats if present due to the open nature of roof with water ingress and wind and temperature fluctuations, as such any further works to the building are unlikely to impact on roosting bats. Therefore, it is considered to remaining remediation works proceed. However, as a precautionary approach all remaining ridge tiles should be carefully removed and checked underneath before removal. In the event a bat is discovered, all works must immediately stop and further advice sough from Natural England.

4.4 Building B2 and B4 are considered to offer negligible potential to support roosting bats. Therefore, no further surveys are required, and bats are not considered a statutory constraint to the proposed conversion work.

4.5 Building B3 provided limited bat roosting opportunities beneath the ridge tiles and fabric of the building. Therefore, due to the low potential of building to support roosting bats and in accordance with industry guidance (BCT, 2023), a single nocturnal survey is required during the optimal survey season (May – August, inclusive) to

determine the presence / likely absence of roosting bats from the buildings.

4.6 If during the nocturnal survey confirms a bat roost as being present, additional nocturnal survey effort will be required in support of a Natural England Licence to facilitate the works.

Enhancements

4.7 Post development enhancements will comprise a bat tube incorporated in the southern gable end of building B1 or B3 (see Figure 2). The Build-in WoodStone Bat Box is designed to fit into the cavity of house walls, with the entrance sitting flush with the outside bricks and provides an excellent insulation for roosting bats.

4.8 The sloping entrance allow any bat droppings to fall out of the box, creating a maintenance-free habitat for a variety of bat species. Position the box at least 3.5m above ground level and away from artificial light sources facing a southerly direction.

Figure 2: Building Reference Plan

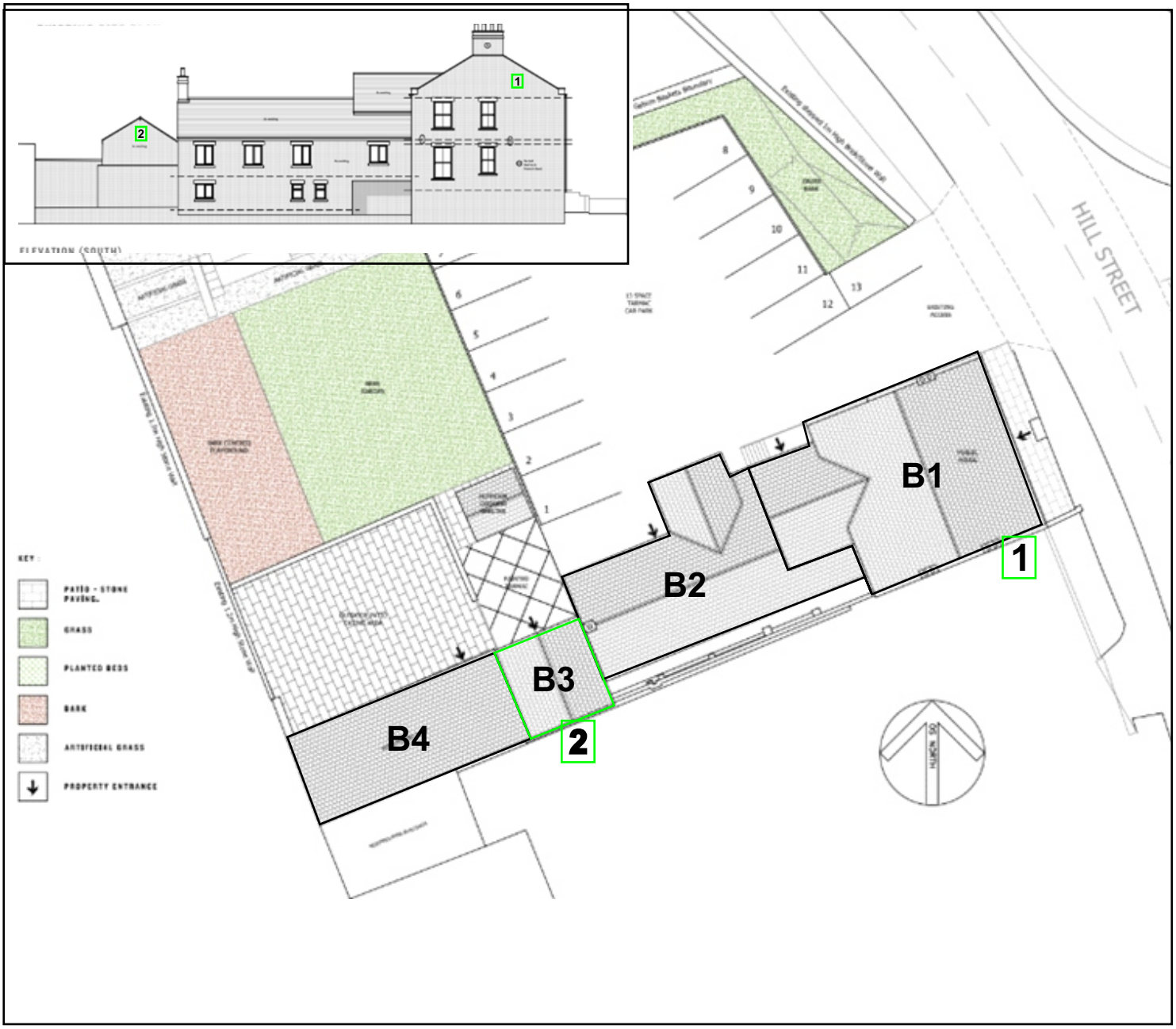
Client: Mr M Monfredi

Site: Fitzwilliam Arms, Elsecar

Date: January 2025

Key:

- Building with negligible bat roosting potential
- Building with low bat roosting potential
- 1 — Possible bat tube locations



Appendix A: Structural Engineering Report

Fitzwilliam Arms, 42 Hill Street, Elsecar, S74 8EL
Structural Report (25/10/24)

Dennis Morris MSc
Any queries: dennis355@btinternet.com 07484 862389

I am asked to report upon the structural integrity of the building know as the Fitzwilliam Arms.

I am asked to consider if it is possible to stabilise the building without demolishing it.

I have to hand and have read the structural report number 2251 done by Buckingham Asociates on 20th January 2022.

Within the report produced by Buckingham associates are various measurements which I assume were correct at the time or were taken in a previous survey (July 2012) by Haycock & Todd.

I have not made further measurements. The measurments taken by previous surveys are such that the walls and chimneys are outside of the 'middle third'. The building is unstable. It will eventually collapse – probably in a winter wind.

THIS BUILDING IS A DANGEROUS STRUCTURE.

The building abuts a public causeway at the side of Hill Street.
At the south side of the building immediately adjacent to the building is a car sales lot within which are parked cars for sale and within which the general public have frequent access. Some 8000 mm above these cars there is masonry leaning out by more than 500 mm; it could fall down any minute. If the masonry fell upon people; it would most likely kill them.

The instability is from roof to cellars; it is not possible to stabilise this building other than by extensive shoring from the adjacent land and road; it must be taken down; it should be taken down immediately.

STRUCTURAL ENGINEER'S REPORT ON

THE FITZWILLIAM ARMS
42 HILL STREET
ELSECAR
S74 8EL

for

Mr M Monfredi

Report number 2251

Buckingham Associates
8 Woodside Court
Wickersley
Rotherham
S66 1FB

Brief

To carry out a structural inspection of the property in order to determine the present state of stability and assess the likelihood of future instability.

To comment on the seriousness of any defects. To determine the causes of the defects and whether they are dormant or progressive.

The investigation is limited to the above-mentioned structural aspects of the property and does not include items not specifically mentioned in this report, such as wiring and plumbing, for which specialist advice should be sought. No investigation of any other aspects of the property was made.

The inspection was carried out on 20 January 2022.

General Description

The Fitzwilliam Arms is situated at 42 Hill Street, Elsecar. It was built in the last third of the nineteenth century as a public house and has remained so ever since. It originally had adjoining properties, numbers 38 and 40 to the left side. These properties were demolished between 1956 and 1976. A rear extension was constructed in 2013.

The site on which the property stands is a fairly steeply sloping road rising at about 1 in 9 to the north. The property faces N 70° E, but for the purposes of identification, the front will be referred to as the east elevation, the right and left sides referred to as north and south elevations respectively and the rear as the west elevation. The site is at approximately 74 metres OAD.

The building has external walls in solid brickwork, with the side and rear walls painted white and the front unpainted. The brickwork on the front east elevation has every course with alternate headers and stretchers, known as Flemish bond. The bonding on the other elevations is less elaborate.

At the top of each of the gable walls (north and south elevations) there are large chimney stacks projecting approximately 2.5 metres above the roof line.

The upper internal floors consist of timber joists spanning between loadbearing walls. The ground floor is solid and can be seen from within the cellar to consist of a series of brick arches forming a vaulted ceiling.

North Elevation

It is clear from a visual inspection that the north elevation, next to the car park, is considerably out of plumb. At low level the wall leans inward by approximately 1 in 35. Above this level the wall appears to straighten, but then leans inwards to a much greater extent at high level.

From measurements taken by a previous survey (Haycock & Todd – July 2012) the chimney stack leans inwards to such an extent that the top of the chimney is around 550 mm out of plumb from the bottom of the wall. Not only does the wall lean inwards, it also slopes down

towards the front corner. The two windows on this elevation that would originally have been at the same level are now approximately 40 mm different.

There are two pattress plates at first floor level on the north elevation, one of which is 4 metres from the front corner and the second is near to the rear corner. These are repeated on the south elevation and will be connected by tie rods running through the building. It is not known when these were installed, but clearly there has been a significant stability problem for many years.

There is evidence of previous cracking in the wall that has been repaired and is disguised by the presence of the painted finish. However, the cracks have reappeared, indicating that there is ongoing movement.

East Elevation

The front elevation consists of Flemish bond brickwork that has not been painted. The entire elevation is sloping down towards the left side by approximately 1 in 30. Measurements from the previous survey indicate an overall difference in level from the right corner to the left in excess of 200 mm.

The doorframe and window frames are severely distorted and the chimney stacks can be seen to lean to the left.

There is a pattress plate at first floor level, 1 metre from the left corner, with a corresponding plate on the west (rear) elevation.

South Elevation

This is the left side which was originally connected to the adjoining property, number 40 Hill Street. It is cement rendered and painted white.

Due to the general slope of Hill Street, external ground level along this elevation is lower than others, making the gable wall higher by up to 1.8 metres.

At the rear corner, and continuing along the southern boundary, there is a retaining wall of relatively recent construction. This additional wall is built plumb and can be clearly seen to be flush with the main wall at the bottom and over a height of 3.8 metres the main wall slopes away by about 150 mm, indicating an overall lean of 1 in 25.

From the previous survey, the top of the chimney stack was measured to be leaning outwards and overhanging the boundary by 550 mm.

West Elevation

From the west (rear) elevation an extension has been added. A previous extension was added to in 2013 and at the junction of the different phases of the building the non-uniformity of the original structure can clearly be seen. It had proved impossible to neatly bond the new brickwork into the old because of the large degree of movement that has taken place.

Cellar

The cellar ceiling and ground floor construction comprised a series of brick arches spanning side to side, forming a vaulted ceiling. These arches are of different spans, with the two outer arches being the longer spans and the centre arch being shorter and therefore the outer arches are of a greater radius than the centre one. Towards the rear, the arches run front to rear.

With any true arch structure, the loads are transmitted down to the supporting walls at the ends not only vertically, but horizontally in the form of a lateral thrust. This thrust is greater the shallower the rise of the arch. Thus the outer two arches will be exerting a considerable lateral thrust on the external supporting walls.

This has caused the arches to fail, which has been partially addressed in the past by the installation of additional support beams across the arches. The underside of the brickwork arches has collapsed in several locations and the integrity of the structure now relies on the remedial beams that are in place.

Due to the nature of arches, it only takes a small amount of lateral movement to cause the arches to fail and this increases the lateral thrust on the supports, resulting in the movement and failure becoming progressive and catastrophic.

Internal Walls and Piers

Most of the internal fittings and ceilings above first floor have been removed. Plaster has been removed from the internal brick piers in the bar area.

The stripping out has revealed that the internal walls at first floor level are leaning towards the south by about 1 in 15 and are in a precarious condition. The internal piers in the bar area carry heavy loads from a series of beams and are also leaning dangerously to the south. One of the piers has a vertical crack, which is symptomatic of compression failure.

The roof is visible where the ceilings have been removed and this reveals that the original roof timbers have lost their bearing where they would have been supported on the external north wall. Remedial work has been carried out in the past, but the roof timbers are currently in danger of further movement causing complete loss of bearing.

General Condition and Conclusions

The building has suffered from severe movement in the past to the extent that the building leans towards the south (left) by an amount which gives serious cause for concern. Any wall that leans by an amount that places the top of the wall beyond the outer face of the base of the wall is considered to be on the point of instability and this is the case with the south wall.

The previously installed tie rods and pattress plates can only provide limited restraint under these circumstances and will not prevent the wall from failing if there is ongoing movement.

Any additional movement of the arched ground floor will result in large lateral forces on the outside walls, with the south wall being the more vulnerable as the ground level is lower at this side.

The present condition of the building indicates significant overall movement as evidenced by the overall tilting of the building downhill to the south and spreading of the arched ground floor.

The building is in a coal mining area and from the geological map for Barnsley (sheet 87) and the accompanying BGS memoir *Geology of the Country around Barnsley* it can be seen that there are several coal seams that are relevant in the area. The Kent's Thick seam outcrops just to the north of the site and dips away to the north. Beneath the site the Barnsley seam is located at relatively shallow depth, estimated to be around 30 to 40 metres. As this is the most important seam in the Yorkshire Coalfield, and at an average thickness of 2.4 metres, it will have been extensively worked in the past. The method of mining adopted would have been the old "pillar and stall" method.

It is likely that this has occurred to some degree in the past, probably affecting the adjoining buildings that were subsequently demolished, as well as The Fitzwilliam Arms. The movement should now have ceased.

The building has suffered from serious movement in the past which has compromised its stability in the future.

In its present state the side walls of the building, in particular the south elevation, are on the point of becoming unstable.

Historical mining subsidence, the removal of the adjoining buildings, and the lateral thrust from the ground floor arched construction are all contributory factors in concluding that the building may become unsafe in the foreseeable future.

Restoring the building is considered next to impossible given the extent of the movement and the dangerous instability of most of the internal piers, walls and the external walls.

The recommended course of action is to demolish the upper and ground floors of the building and to infill the basement.

Stephen White BSc MSc MPhil MBA CEng MIStructE
for *Buckingham Associates*
31 January 2022