

# Northern Structural Services

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10<sup>th</sup> February 2012

Dear Sir

## **C9652 – The Barn, Cowdale Hall, Cowdale, Nr Buxton**

The purpose of our visit was to prepare a report on the existing barns in support of a planning application for a change of use. Our observations and comments are given below.

For the purpose of this report all directions will be referred to as if facing the southeast elevation.

### **1. Description of Existing/Proposed Layout**

At present, there are three main structures in the area proposed for conversion. To the right front corner is a stone built lean-to barn, with the roof pitched from rear to front. To the rear of this first barn is barn two, which is a lean-to structure with its roof pitch being down to the left. This barn in-fills the corner of the existing holiday cottages, which wrap around the rear right corner of the proposed development. Opposite barns one and two is barn three, which is a lean to structure and has a roof pitch running down to the right linking the barns. To the rear of the courtyard between them, is the wall to a barn to the rear of the proposed development. From the drawing proposal provided it is proposed to in-fill the rear part of the courtyard between the barns, using the existing wall to the fourth barn.

## **2. External**

### **2.1 Front (South East) Elevation**

This elevation was the end wall of Barns 1 and 3. The walls were constructed in random stonework. The slope of the wall reflects the lean-to roof profiles beyond. Some maintenance work has been carried out to the upper part of the left side, but this has only taken the form of re-pointing. The window to the right side appears to have a timber lintel over it. There was some open jointing to the stonework to the top right corner area. The roof was corrugated metal sheeting and ran down to the top of the right section of wall from over barn one. The stonework was of reasonable line and level.

### **2.2 Right Elevation**

This elevation was mostly obscured by the cottages, which wrap around the rear right corner of the barns. The upper front part was random stonework and the lower front part was rendered. There was some open jointing to the stonework near the front corner.

### **2.3 'Courtyard' Elevations**

#### **2.3.1 Rear**

This wall was random stonework and appeared to be the front wall of a barn to the rear. The roof of the rear barn ran down on to the top of this wall. To the top left area was some loose stonework and some missing stonework over the top of the roof to Barn three. The base of the wall had a concrete plinth in front of it. We noted that the general lie of the land was up towards the rear of this area, although the floor/ground level in the barns and courtyard was generally at the entrance level.

#### **2.3.2 Right**

This elevation was the left wall to Barns one and two. To the front part, Barn one, the wall was highest towards the rear from where the roof sloped down towards the front. This section of wall was mainly random stonework. There was a personnel type door opening which appeared to be using the door frame as part of the lintel to the wall. To the rear of the door opening the lower part of the wall was brickwork. There was a straight joint between the wall to Barn one and that to Barn two. There was some open jointing to the stonework over the door to Barn one. The wall to Barn two was a mixture of concrete blockwork and random stone. There were two door openings and adjacent windows. The blockwork was mainly around the door openings. Below the forward window the stonework had open joints.

#### **2.3.3 Left**

This wall appeared to be mainly concrete. This side of the courtyard had a front and rear stable area. The lower part of the rear stable wall appeared to be rendered stonework with a concrete block section running up to the underside of the windows. The lower part appeared to be about 1m thick. The roof sloped down to the top of this wall.

## 2.4 Rear Elevation

This elevation was part of the barn to the rear. However, the roof structure was supported by purlins, timber roof trusses and concrete columns. The wall did, therefore, not appear to support the barn to the rear of the proposed development. Some brickwork had been added into this wall, presumably as part of the maintenance of the wall. However, to the left side there were some gaps to the wall. There were remedial works over former window positions, including concrete work over the right window.

## 2.5 Left Elevation

This elevation was the wall to Barn three. The wall was random stonework. There was a concrete block wall that was built 'in front of' the main wall and appeared to be part of a storage area. There was a window opening, which had a stone lintel over it. There was open jointing to the stonework and there was bulging out towards the left to the rear part of this elevation.

# **3. Internal**

## 3.1 Barn One

This area had random stonework. Timber rafter and purlins supported the roof. There was a timber lintel over the door opening to the inside stonework and over the window opening the wall plate continued across supporting the roof and acting as a lintel. The wall plate was set over the outer part of the stone wall. There was some fine cracking to the rear wall.

## 3.2 Barn Two

This area had a lean-to roof running down to the left, which was covered in corrugated metal sheeting. The wall, formed the rear part of the right wall to the courtyard was the external wall to this barn, with its right and rear wall being shared with the neighbouring cottages. The wall was random stonework for the most part but concrete blockwork had also been used to form the door openings. The underside of the roof showed small purlins supporting timber boarding, which was to the underside of the corrugated sheeting. The walls to the right and rear were random stonework and the pier between the forward door and window had loose blockwork to its upper area.

## 3.3 Barn Three

This was to the left side of the courtyard. There were two room areas separated by a low wall. The left wall was the left elevation of the barns and random stone construction, as were the front and rear walls. The right wall appeared to be concrete blockwork, with the lower part of the rear section possibly being solid concrete and very thick, forming a shelf to the inside of the barn. The roof was corrugated sheeting, possibly of the concrete type known to have the possibility of asbestos within it. There was some loose stonework to the upper part of the front wall and there was a steel support to the wall plate. The walls, in general, showed no signs of movement.

### **Conclusions & Recommendations**

The barns have clearly been used as part of the agricultural use of the farm. The walls were generally intact, although small areas to the rear wall and the courtyard wall will require rebuilding. Some re-pointing works will also be necessary and we would recommend that new lintels are placed over doorways and windows to avoid the deterioration of timber elements. This represents a small amount of works, possibly affecting 10% of the elevations. There were no signs of foundation movement recently affecting the barns. Therefore, we would conclude that the barns were fit for the proposed conversion works.

Should there be any further information you may require, please do not hesitate to contact us.

Yours faithfully

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B.Sc(Hons) C.Eng. M.I.Struct.E.

For and on behalf of Northern Structural Services Ltd

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**Enc. Photographs**