BUILDING SURVEY REPORT, STRUCTURAL APPRAISAL AND CONSTRUCTION METHOD STATEMENT

for

APPLICATION FOR PRIOR APPROVAL FOR CLASS Q PERMITTED DEVELOPMENT FROM AGRICULTURAL TO RESIDENTIAL

at

TYNINGS BARN, CHURCH LANE, WINGFIELD BA14 9LW

on behalf of

MOUNT BUGLE DEVELOPMENTS LTD

DOLMAN
Tel: 01380 729456
Email: info@dolmansurveyors.co.uk
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Building Survey Report, Structural Analysis and Construction Method Statement

Application for Class Q Prior Approval

Tynings Barn, Church Lane, Wingfield

Brief

Instructions were received by Mr D Robinson of Mount Bugle Developments Ltd, to carry out a Building Survey on the Barns to be converted and to report on the existing structures, advising on their capability and suitability for conversion, along with the method of such conversion, in respect of a Prior Approval Application.

Survey

The survey was carried out by Mr W P Drewett MRICS Chartered Building Surveyor on 23 May 2023. The weather was mild, dry and bright.

1.0 ***Observations***

The site is located to the south-west of Wingfield, accessed off of Church Lane with a track leading to the farm building.

The building for conversion relates to a single barn in isolation, to form one dwelling.

1.2 The Barn consists of a simple and substantial portal frame which has a clear span of approximately 8770mm and a ridge height of approximately 4650mm, eaves height of approximately 3350mm.

The five portal frames (four bays) consist of 180 x 100mm stanchions to the east, 200 x 200mm box sections to the west and rafters of 180 x 100mm universal beams, with a haunch at the western eaves and ridges.

The 200 x 200mm box section stanchions to the front (west) supports the 1500mm cantilever oversail.

Bracing to the portal frame structure consists of approximately 70 x 70mm angles.

1.3 Further bracing is formed by the sleeper walls which are fitted between the stanchion flanges along with intermediate steel posts between each portal frame bay.

The north, east and south walls are enclosed with 150mm thick x 250mm sleepers, approximately 1.8m high with Yorkshire timber boarding over to weather the building.

The sleepers bear upon strip foundations, secured horizontally by the flange of each stanchion.

The Yorkshire boarding is fixed to 110 x 70mm timber sheeting rails which, in turn, are secured to the stanchions.

The west (front) elevation is enclosed by sheeted gates, with the top section open, as expected for this type of agricultural building.

1.4 The roof consists of fibre cement roof sheet coverings which are laid upon 175 x 75mm timber purlins, which are supported by the rafters of the portal frame.

1.5 The floor is compacted hardcore, as suitable for cattle housing.

1.6 The foundations consist of concrete pads beneath each stanchion and strip foundation beneath the sleeper walls.

2.0 ***Summary of Structural Elements***

2.1 The structural elements consist of:-

- Steel portal frames
- Sleeper walls (with cladding at high-level)
- Roof purlins (clad with roof sheets)
- Foundations

2.2 The steel frames are in good condition with no signs of significant defects to jeopardise the structure.

2.3 The sleeper walls are acting as bracing to the portal frames and appear in good condition for retention, with no signs of rot. Adaptation to sleeper walls can be carried out to form structural openings at window and door positions.

The high-level cladding isn't structural.

2.4 The roof purlins are considered a structural element and are in good condition due to the good roof coverings keeping the inclement weather out.

2.5 There are no sighs of settlement to the portal frames, as such the foundations are evidently substantial and meet the needs of the imposed loads bearing upon them.

2.6 The existing structural elements of the building to be converted have been surveyed and are considered to be in good condition and suitable to be utilised for the conversion of the barn for residential use.

3.0 ***Overview of Proposed Design, Construction Method and Recommendation***

3.1 The proposed drawings indicate the roof structure and coverings being retained, which appear practical given the current situation is acting well as a rain screen for the barn. Any defective sheets can be replaced in isolation as necessary and given the building was constructed in 2007, there will be no asbestos present within the coverings.

3.2 The existing sleeper walls form part of the character of the building in its rural setting and are indicated to be retained.

Windows and doors can be formed by cutting through the sleepers to form openings and providing new braces / posts each side of the openings to retain the sleepers in position.

The high-level cladding is to be added to, with an additional board to close the gap, thus forming 'castle boarding' and weathering the building.

The front (west) elevation is to be closed off by forming independent timber frame walls between the steels with the sheeted gates fixed shut acting as cladding, again retaining the character of the rural building.

The metal sheeted gates will be adapted to form pedestrian doors for access though. All loads passed through the existing steel frame by fixings to the 200 x 200mm posts, ensuring the works form part of the conversion.

3.3 The existing hardcore floors are to receive concrete, insulation, membranes and finishes, all reasonably necessary and suitable upon the existing ground bearing structure.

3.4 The proposed internal partitions and internal linings of the external walls are to be inserted, light weight, built off of the floor slab (i.e. no foundations required).

3.5 The proposed mezzanine is to be independent and self-supporting for the introduction of the upper floor, all as permitted by Class Q.

3.6 The proposed designs clearly retain all of the existing structures for conversion (floor, external walls and roof) with minimal interventions, consisting only of introducing windows and doors, additional cladding to close off the gaps in the Yorkshire boarding, providing non-structural partitions to form separate rooms and linings to insulate, and the introduction of the mezzanine.

3.7 To conclude, the proposed drawings have been carefully considered and the building has been designed to meet the conversion requirements and guidance of the current Class Q permitted development.

The floor, walls and roof structures are all to be retained and converted by adapting the fenestration and the introduction of insulation, membranes and partitions, all as carried out in the past on such Class Q barn conversion.