



**REPORT ON PROPOSALS OF
CONVERSION OF AGRICULTURAL BUILDING
TO RESIDENTIAL DWELLING
AT
CROCKWELL FARM, GT BOURTON**



Survey by		
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1.0 Brief

1.1 AB Designs Limited were asked to provide comment on the structural integrity of the existing agricultural building at Crockwell Farm and the ability of the proposed conversion works to be accommodated within this building. We are instructed that planning permission has already been won at appeal on the 28 September 2021 for the principle of the conversion of the building from agricultural to residential use and accordingly a subsequent application is now being submitted for the building operations, reasonably necessary to convert the building to residential use. This report provides comments on these building operations and the ability of this building to accommodate these works without significant structural change.

1.2 In writing this report we are therefore aware that that the agricultural building is capable of functioning as a dwelling. In addition, we are also aware that building operations which are reasonably necessary to convert the building, which may include those which would affect the external appearance of the building and would otherwise require planning permission, are considered to be permitted development. This includes the installation or replacement of windows, doors, roofs, exterior walls, water, drainage, electricity, gas or other services to the extent reasonably necessary for the building to function as a dwelling house; and partial demolition to the extent reasonably necessary to carry out these building operations.

1.3 In making our assessment we are also aware that internal works are not generally development. For this building to function as a dwelling it has been deemed appropriate to undertake internal structural works, including to allow for the insertion of a first floor and internal walls. These not prohibited by Class Q.

2.0 Summary

2.1 In the examination of this building, we are satisfied that the existing structure will continue to carry the load of the external envelope, including the roof covering, wall cladding and ground floor finishes. The re-utilisation of all these elements confirms that the proposed building operations represent a true conversion of the building with all of the existing primary structure remaining unaltered, with only minor local alterations to the secondary structure. We are of the opinion that the designs proposed by the architect are sympathetic to the retained structure of the building. The building is an enclosed permanent and substantial steel framed structure, with a floor and sidewalls. Whilst the building envelope requires some alteration to the secondary structural members for the insertion of windows and doors, we confirm that these do not alter the structural integrity of the building and are reasonably necessary to convert the building into residential use.

2.3 It is our opinion that these minor works do not constitute 'rebuilding' and are consistent with the requirements of a Class 'Q' conversion. We are therefore of the opinion that the building can function as a dwelling house with the undertaking of proposed building works that are reasonably necessary to convert the building.

3.0 Discussion

3.1 We are aware that the Class Q permitted development rights allow for the change of use of an agricultural building to residential use, together with *reasonably necessary* building works.

3.2 The planning practice guidance confirms that reasonably necessary building operations will include the **installation or replacement** of:

- Windows;
- Doors;
- Roofs;
- Exterior walls;
- Services.

3.3 The decision maker must distinguish between what constitutes reasonably necessary building works and works that comprise a complete rebuild mindful that the works above are deemed as permitted development and do not affect the structural integrity of the building or its ability to be converted under Class Q. To inform this decision a structural report is necessary to identify the extent of works and whether or not the original building is capable of being converted. This report has been designed to assist the decision maker in this respect.

3.4 From the outset it is apparent that the proposed designs for the conversion retains all of the existing structural elements and these will be re-utilised as part of the new residential use. This can be confirmed by the following points:

1. All existing primary steelwork will remain, without requiring any modification or strengthening;
2. Nearly all existing secondary steelwork members will remain (over 85%), with the exception of alterations that are deemed reasonably necessary to facilitate the residential use, i.e., the insertion of windows;
3. New openings will be located where there are existing large openings;
4. Existing ground floor concrete slab to remain;
5. Load path of building unaltered, keeping the character and structure of the building;
6. No strengthening work required to existing members; and
7. Partial re-use of existing wall cladding, with similar cladding to be used where there is currently a deficiency.

Proposals

3.5 We have examined the proposed design and it is apparent that they re-utilise the existing structure to support the external envelope in the same way as it does at present. The external envelope remains the same and the building operations are based exclusively on the re-use of this structure. This can be seen on the 'Mark Up' plans attached to this report which show the extent of associated building works.

Works to the Roof

3.6 The proposed designs for the conversion of this building will not require any alterations to the structural elements of the roof. The existing structure is capable of carrying a new corrugated steel roof. A corrugated steel roof is much lighter than the existing asbestos/cement fibre sheeting and its replacement would represent a necessary enhancement to the building. Following an inspection of the roof structure it is clear that the purlins and steel portal frames do not require additional strengthening or replacement. It is clear that the replacement of the roof covering is permitted development. Irrespective of this the removal of the asbestos/cement fibre roof is an environmental benefit to the site.

Structural works to the Walls

3.7 We confirm that there is no requirement for replacement of structural members to the walls including the lower blockwork, and upper steel cladding rails, with the exception of where new openings are formed for windows and doors. Several of these occur where local repairs would be required, and in essence this will ensure that any work to the external structure and secondary structural members is kept to a minimum. Irrespective of this, we are mindful that a Class Q conversion does allow for the installation of windows and the replacement of exterior walls, where reasonably necessary. It is our opinion that these works fall under this category of operational development and deemed to be permissible under Class Q.

3.8 These works are also considered to be small scale and simply require some 'trimming' out of cladding rails for new windows. This work will keep the load path of the building the same as the existing, with horizontal cladding rails transferring any load to the portal frame, and in turn to the foundations, in exactly the same way as the existing.

3.9 There is one gable end that is currently open, where the building adjoined the pole barn that has been demolished leaving the current opening. Given that there was previously a structure in this location, we confirm that this gable could be infilled with cladding rails spanning from portal column to portal column. We would suggest that these are considerably wider members than the existing to keep the deflection within suitable limits, but this is economically and practically feasible as part of the conversion. We would expect cladding rail widths to be approximately 300mm cold forged steel z or c section. The inclusion of these secondary members do not suggest in any way that the development is a

rebuild of the existing structure and the secondary members would be supported by the primary structure and would be included simply to provide an external wall where the pole barn once stood. In our opinion, this all falls within the permissible development with the conversion of the building.

Floor

3.10 We confirm that the existing ground bearing concrete oversite slab is suitable for supporting internal finishes such as floor screeds, insulation etc. We can confirm this by inspection, as the slab has performed satisfactorily being tracked by farm vehicles, tractors, telehandlers, and the weight of stacked forage, bedding and grain, which is a more onerous loading than residential imposed load and finishes.

Internal Structure

3.11 Whilst the internal structure is required to facilitate the addition of a first floor, this is not required as part of any external envelope works. Irrespective of this, the changes made to the planning practice guidance in June 2018 specified that *internal works are not generally development*. The guidance recognised that it is appropriate for a conversion to undertake internal structural works to facilitate the insertion of an upper floor within the overall residential floorspace permitted.

3.12 In this design, we have proposed to utilise the existing structure as this is the most cost effective and feasible solution, however it is not necessary for structural adequacy of the external envelope.

4.0 Conclusion

4.1 From a detailed inspection and examination of the application building it can be concluded that the existing structure of the barn can be utilised to convert the building into residential use *without the need* for any substantive works or *rebuilding*.

4.2 The designs have been sympathetic to the existing building and simply provide reasonably necessary building operations to facilitate the residential use. The existing structure will continue to carry the load of the external envelope. The building is a substantial steel framed structure with a floor, roof and sidewalls. The building operations in this case are the insertion of new windows and a roof covering, and the installation of a new upper floor for the proposed residential use. All these works are permitted development with a Class Q conversion and do not affect the structural integrity of the building.

4.2 The building will retain the same shape as existing and will not involve any further extensions to facilitate the residential use. Overall, we conclude that the proposed building operations are sympathetic to the conversion of the existing building.

AB DESIGN SOLUTIONS LTD