

P. R. Bartlett
B.Eng.,C.Eng.,M.I.C.E.

PRB Associates

**Chartered Civil and
Structural Engineers**

1 Ashley Cottages
Verwood Road
Ringwood
BH24 2DD

Tel: 07884076214

E-mail: bartlett_peter@sky.com

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Mr. A Dickens
Orchard Farm
Dowsdale Bank
Shepeau Stow
Spalding
Lincs PE12 0UA

Re: Orchard Farm, Dowsdale Bank, Shepeau Stow, Spalding , Linconshire PE12 0UA

I have inspected the above site with regard to its suitability for a Part 3, Class Q Permitted Development application for a barn together with associated photographs and drawings within Town and Country Planning (general Permitted Development (England) Order 2015(as amended))

For the purposes of this report the front of the properties is that facing yard and the left and right-hand sides are taken standing in to the yard looking at the front.

I have not inspected woodwork or other parts of the structure that are covered, unexposed or inaccessible and I am therefore unable to report that any such part of the property is free from defect.

This report is under the jurisdiction of English law

General

The existing property consists of a group of four barns set within a larger farm complex. The buildings were previously used in the poultry industry, being long and low. The four barns are set with their long sides parallel. The proposal includes conversion of Barns 1 and 3 with Barn 2 being demolished. Barn 4 has a link to barn 3 which is also being demolished.

Barn 1 is a long single storey barn with a low pitch roof. The corrugated sheet roofing is supported on timber portal trusses and purlins. There is a concrete floor throughout Barn 1 which has been used for industrial purposes with farm vehicles for many years in the past.

The timber trusses are in good condition and of a reasonable size. The walls are clad in vertical timber from eaves down to an approximately 200mm thick concrete slab. The structural frames are in good condition. The timber rafters and purlins are in good condition and reasonable sectional size. The brick walls are in satisfactory alignment and condition. The roof has a central pitch and is covered in corrugated asbestos sheets which are in reasonable condition. The concrete floor is in good condition and laid to a satisfactory level.

The walls and roof are in reasonable condition and satisfactory alignment all-round.

Barn 3 is also a long barn but is taller with the lower half of the elevations constructed in 225mm brick and the upper half being clad in timber on timber stud walls. The barn was used as a battery house with the chickens being positioned on a raised timber floor at approximately half the height of the walls.

There is a concrete floor throughout Barn 3 which has been used for industrial purposes with farm vehicles for many years in the past.

The structural frames are in good condition. The timber rafters and purlins are in good condition and reasonable sectional size. The brick walls are in satisfactory alignment and condition. The roof has a central pitch and is covered in corrugated asbestos sheets which are in reasonable condition. The concrete floor is in good condition and laid to a satisfactory level.

The walls and roof are in reasonable condition and satisfactory alignment all-round.

Construction

Barn 1

The proposal is to utilise the existing ground floor footprint but with a small section at the right end demolished and a section in the centre demolished. This creates two separate dwelling units following the shape profile of the original barn on the original concrete slab.

The conversion will involve replacing the existing corrugated metal sheet roof with insulated metal sheet panels to similar alignment. The proposed lightweight insulated steel sheet roof will have a similar loading to the corrugated asbestos sheeting. Any new internal partition walls would be studwork partitions walls built off the floor slab. Thus, the new live and dead load from the roof will be similar to the existing. The roof load will be directed via the existing timber frames and lower existing brick walls to the existing foundations. No significant increase in roof load is proposed. The timber framed posts are deemed satisfactory and no alterations to these are expected subject to inspection.

By spreading the load, the loading at each support should be minimal and easily accommodated by the existing, frames, walls and associated foundations.

The existing concrete slabs have been used by heavy farm machinery in the past so should be adequate to act as the base slab for the proposed dwellings. Further insulation and floor screeding would be carried out above this to give a warm level finish.

The external walls are proposed to have timber boarding or similar above the brick plinth. Window and door openings are to be created in the external walls at appropriate locations. All the work is to be designed to maintain the rural environment and be in keeping with the agricultural setting.

Bracing

Bracing to the proposed structure can be built into the new stud walls creating shear walls. The new metal sheet roofing will have diagonal bracing built into the structure as part of the design.

Barn 3

The proposal is to utilise the existing ground floor footprint to create three separate dwelling units following the shape profile of the original barn.

The conversion will involve replacing the existing corrugated asbestos sheet roof with insulated metal sheet panels to similar alignment. The proposed lightweight insulated steel sheet roof will have a similar loading to the corrugated asbestos sheeting. Any new internal partition walls would be studwork walls built off the floor slab. Thus, the new live and dead load from the roof will be similar to the existing. The roof load will be directed via the existing timber frames and lower existing brick walls to the existing foundations. No significant increase in roof load is proposed. The concrete foundations to the external walls are deemed satisfactory and no alterations to these are expected subject to inspection. The existing mid-level timber floor would be removed to give a vaulted effect inside the new dwellings. No loadbearing stud partitions would be aligned to give additional support to the trusses as necessary.

By spreading the load, the loading at each support should be minimal and easily accommodated by the existing, timber frames, walls and associated foundations.

The existing concrete slab, approximately 200mm thick, has been used by heavy farm machinery in the past so should be adequate to act as the base slab for the proposed dwellings. Further insulation and floor screeding would be carried out above this to give a warm level finish.

The external walls will utilise the existing solid brick to half height with timber cladding supported on the existing timber frames from top of brick to eaves level. Window and door openings are to be created in the external walls at appropriate locations. All the work is to be designed to maintain the rural environment and be in keeping with the agricultural setting.

Bracing

Bracing to the proposed structure can be built into the new partition stud walls creating shear walls. The new metal sheet roofing will have diagonal bracing built into the structure as part of the design

Conclusions

The barns are ideally suited for conversion under the PD development remit for disused farm buildings. The barn is in good condition and only relatively minimal additional work is required on the foundations. Preliminary calculations have shown the loading to the columns to be relatively small and the floor slabs would be adequate to accommodate the light roof loading. There would be no need to increase the foundations for the external walls as the loading here is not proposed to change significantly. Most of the work required is on the superstructure inside the barn which would be expected in any conversion. I understand that the above ground internal alterations fall within the Remit for conversion of agricultural buildings under PD that is being considered by LPAs. Given the structural elements of the barn is in good condition and the overall footprint and shape of the buildings are not proposed to be changed to any significant degree the structural work to the foundations would be minimal and satisfy the requirements of Class Q. The work expected to be required on the foundations in this conversion are minor and typically far less onerous than those experienced in previous PD barn conversions we have worked on.

Yours sincerely

P R Bartlett C Eng MICE