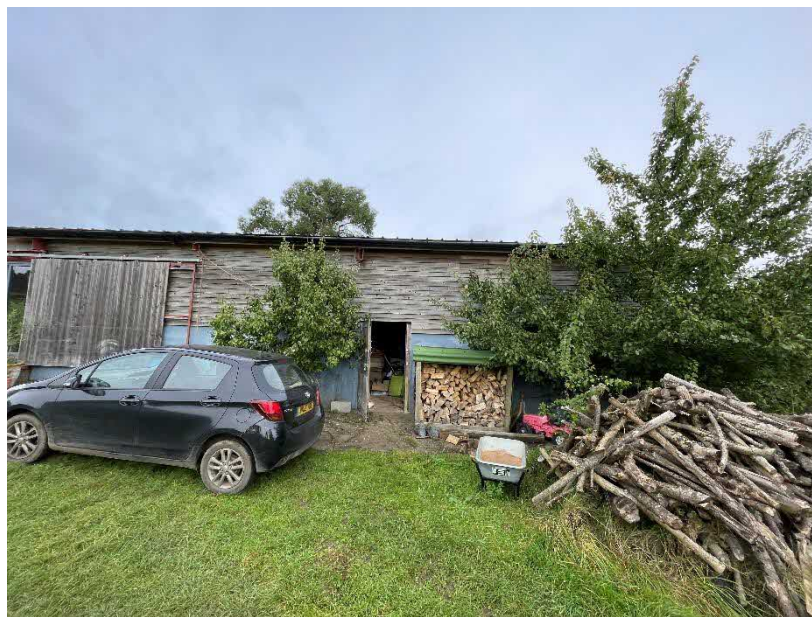


Failand Hill Farm
Horse Race Lane, Failand
Bristol BS8 3TY



Client: Pippa Stables
Date: Oct 2023
Project No: 120055
Rev: 0
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			Job No.	120055		
	Project	Class O Report Failand Hill Farm, BS8 3TY	Date	Oct 2023		
			Prepared	MB		
			Chkd	AG		

EXECUTIVE SUMMARY

There is an existing barn at Failand Hill Farm, Failand, Bristol. The barn had been used as cow barn. Generally, the underlying external structures appear to be in a condition expected of its age and capable of supporting the imposed loading for the building classification. The existing barn can be converted to a domestic dwelling, without replacement of the existing structural elements or significant reconstruction or strengthening.

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1. Introduction:

- 1.1 Morgan Structural Ltd were instructed by the Client to visit the above premises and undertake a visual inspection of the existing Barn. The purpose of this inspection was to carry out a visual survey and confirm the general structural condition and suitability of the Barn to be converted into habitable dwellings and subsequent to the visit provide a report. Class Q change of use of agricultural building to residential dwelling is being proposed.
- 1.2 A visual inspection was carried out where access was readily available. No intrusive investigations were carried out, so the existence of concealed defects cannot be ruled out. Morgan Structural Limited (MSL) cannot accept any responsibility for any concealed defects subsequently uncovered.

2. Report Limitations:

- 2.1 This report is prepared for the sole benefit of the Client by whom it is commissioned, and we have no liability or duty of care to any other parties in respect of the contents or opinions expressed.
- 2.2 The scope of our inspection was limited only to three bays towards the eastern end.
- 2.3 No measurements were taken for damp penetration, concrete deterioration, decay or spalling. We did not inspect the roofing sheets. Drains and services have not been inspected. The foundations were not inspected.
- 2.4 All dimensions noted in the report are approximate, as measured on site. The directions noted are approximate. LHS (left hand side) & RHS (right hand side) noted in the report refer to views as being viewed from the front of the building.

3. Inspection:

- 3.1 An inspection without the provision or use of special access equipment was carried out on Wednesday 3rd October 2023. The weather was dry.
- 3.2 The part of the barn that was inspected, was not occupied during our visit.
- 3.3 This report will consider the structural items of the barn observed which could be of possible structural significance

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4. General Description

- 4.1 The barn at Failand Hill Farm is located adjacent to Failand & Portbury Cricket Club Ground along Horse Race Lane, Failand. The barn is rectangular on plan. Only the last three bays towards the eastern end were inspected.
- 4.2 The area of the barn that was inspected, measured 5.87m x 11.32m approximately on plan. The main structure is mono pitch frame. Eaves height at lower eaves was 5.045m.
- 4.3 The age of the building could not be verified.
- 4.4 There is a mezzanine occupying half of two bays.
- 4.5 The site is accessed from Horse Race Lane. We were informed the barn had been used as a Cow Barn.
- 4.6 We did not have sight of any as built information.

5. Barn:

Roof

The roof is proprietary profiled roof panels with insulation fixed onto purlins.

Three steel 150x75 purlins span over the frame. In between these steel purlins, three timber purlins 150x50 have been provided.

The purlins are supported on steel beams.

Sizes were measured where safe access was available and estimated elsewhere.

The steel purlins have been painted with primer.

Could not be ascertained if the timber purlins have been treated.

Steel Frame

Mono pitch frame comprises steel UBs or C sections supported on UB columns.

The roof beams are 260x145 UBs or 150x75 C sections.

The columns are 150x90 UB columns.

The intermediate columns are 100x100 hollow sections.

These columns are likely to have been taken down to concrete foundations.

The column frames in the short direction appear sway frames.

The steelwork has surface rust but no major deterioration of the material; it will though require surface preparation and re-painting.

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Masonry

Medium dense/dense blocks from the front masonry wall. This provides the stability in the long direction.

To the rear, there is a stone retaining wall. On top is blockwork boundary wall.

Slab

The barn has been provided with concrete floor slab.

Foundations

Foundations were not inspected.

6. Discussion and Conclusion:

Overall, the structural frame appeared in a condition expected of its age, without any serious defects. The rust on the columns and beams is probably due to them being exposed to the elements or lack of regular maintenance.

As far as change of use to residential dwellings, careful consideration should be given to the following actions

There is no plan bracing within the roof structure.

The existing purlins appear adequate to support existing roof. If there is any change to the roof, then it needs to be reviewed.

The longitudinal stability in the front is provided by the masonry.

To the rear there is no masonry between the frame nor any vertical bracings. The frame can be tied to the rear wall for stability or moment connections are to be provided.

In the short direction, the stability is provided by the frame, acting as a sway frame. The resulting lateral deflection at eaves level is suitable for simple cladding. However, blockwork masonry is along the front elevation. The frame can be positively connected to the rear wall to keep the eaves deflection below the allowable limits. Enhancement in the form of moment connection at the eaves level may also be considered.

Existing foundations were not investigated. However, the structure appears without any obvious distress due to foundation settlement, it is deemed the existing foundations are adequate to support current structure.

Depending on the final layout, stability to be reviewed considering the proposed apertures in the elevations.

Although not supporting the frame, the rear wall is a retaining wall and could not be fully viewed due to obstructions. From what little could be seen towards the gable end, it appeared in reasonable condition.

Any vegetation over the structure needs to be removed.

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In conclusion habitable dwellings can be formed within the existing barn designed in a way to avoid overstressing or replacement of the existing structural members and without significant reconstruction or strengthening.

7. Recommendations:

7.1 As discussed in the earlier sections, the last three bays of existing barn can be converted into domestic dwellings permitted under “The town and Country Planning Order 2015, Class Q - agricultural buildings to dwelling houses”, with consideration being given to the actions noted under the relevant sections of this report.



Mahara Booshanam BE(Hons) CEng MStructE MICE

Associate Director

For and on behalf of

MORGAN STRUCTURAL LIMITED

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APPENDIX 1

Photos

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Photo 1 Gable end View of the Barn from the right-hand side



Photo 2 Inside View of the structure along the gable

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Photo 3 Part inside View of the Barn



Photo 4 Part view of rear wall