2153 /A
01. September 2025

[redacted]
Tyddyn Dedwydd
frondeg Rhostyllen
LL14 4ND

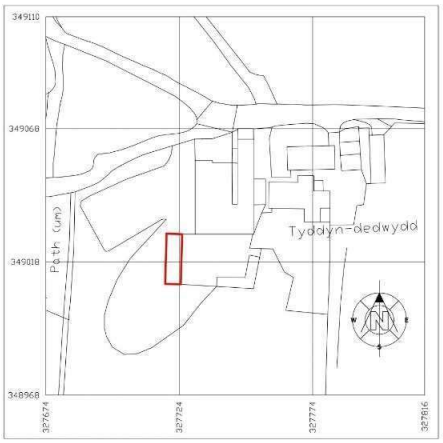
[redacted]

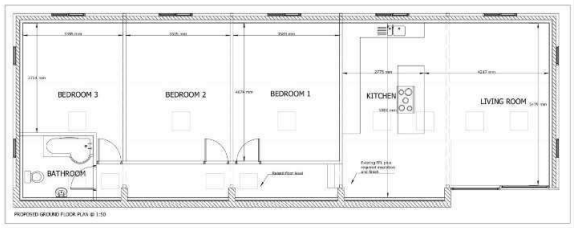
RE: Proposed Conversion of Barn at Tyddyn – Dedwydd LL14 4ND. Structural report.

1. Scope.
I have been asked to review the barn and report contents due to the 5 year time period from my initial report.
Based on findings from site visit undertaken on the 29th August 2025 I find the condition of the barn structure no worse than 5 years ago and as such the content of the report below is still valid.

[redacted] proposes to convert an existing Barn buildings Location plan below at LL14 4ND CH667NN It is proposed to provide single residential units, within the envelope of the existing buildings utilizing the existing structural fabric of the buildings. I undertook a visual inspection of these buildings on 11th November 2020. This report provides my observations and opinion on:

- Survey report on structural condition of the building.
- Advice on whether the building is structurally sound and is capable of conversion without extensive rebuilding, and that the building will not collapse during the proposed conversion.
- Identify areas that require replacement, repair or renewal.





Location

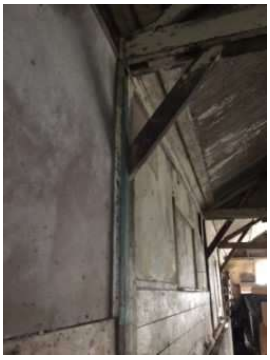
Approximate Proposals.

Principal: A. Reza Jalali B.Sc. CEng M.I.StructE
Associates
219 Bebington Road
Birkenhead CH42
4QA
reza@arjasociates.co.uk

2. Observations

2.1 This building is single storey rectangular plan shaped approximately 18m x 6m. It has Loadbearing external walls and pitched profiled metal roof covering.

2.2 The duo pitched roof is supported on timber trusses rafters spanning onto timber posts supported on the front and rear walls. No signs of significant movement , deformation or cracking indicative of foundations and/or super structure failure was apparent in the roof and its structural timber framed support system.



Roof Support



Typical Elevation and cladding.

2.3 The ground floor is a substantial sloping solid concrete slab. No signs of structural failure or significant movement were apparent.



Ground Slab.

2.4 The lower portions of the external walls approximately 1.5 m high are in in 215 thick concrete blockwork. A small area of the front portion of the external Right-Hand side block wall approximately 2 m^2 in area contained a diagonal 5-10mm crack and horizontal displacement caused by vehicle impact. Elsewhere no signs of significant movement , deformation or cracking indicative of foundations and/or super structure failure was apparent.



Perimeter Wall



Collision Crack.

Principal: A. Reza Jalali B.Sc. CEng M.I.StructE
Associates
219 Bebington Road
Birkenhead CH42
4QA
reza@arjasociates.co.uk

2.5 The upper portions of the walls are in a mixture of profiled sheeting and timber board cladding. The upper cladding does not contribute to the structural stability of the building. It is proposed to be replaced.




Wall Cladding types.

2.6 Foundations at the rear Left- hand corner of the barn was exposed. A Strip footing with spread of 150mm and 150mm thick was noted to bear onto a firm sandy clay at approx 400mm below ground .No signs of significant movement , deformation or cracking indicative of foundations was apparent.



Foundations

Principal: A. Reza Jalali B.Sc. CEng M.I.StructE
Associates
219 Bebington Road
Birkenhead CH42
4QA
reza@arjasociates.co.uk

3. Opinion.

A. The sub-structure and super structure of the building are considered stable and adequate. The proposed conversion is structurally feasible and can be accommodated utilizing the existing structure and fabric of the building . Demolition of existing structure would not be necessary.

B. Details of the proposed development are not known; however it is structurally feasible to undertake the necessary changes for a single or multi occupancy residential development which will enhance rather than replace the current structural performance fabric.

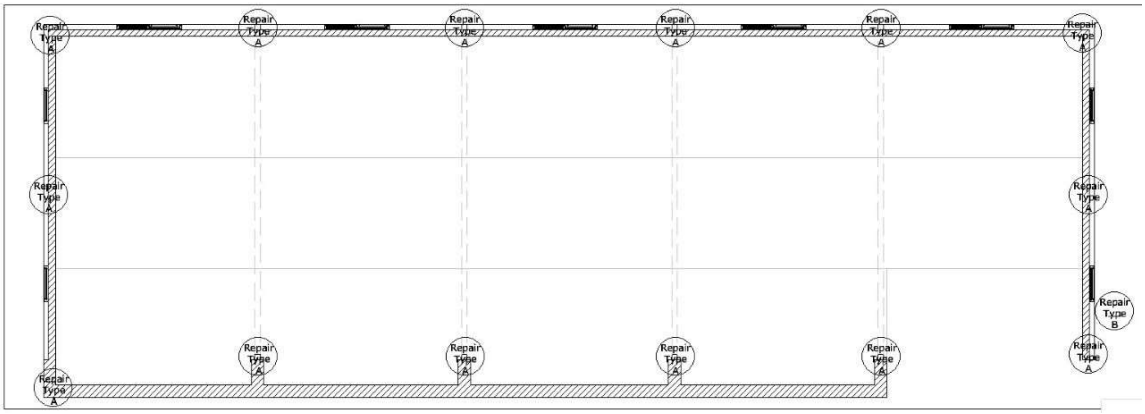
C. The scope of necessary structural modification to the cladding will depend on the final detail of the proposed scheme, and not within the scope of this report.

D. It is feasible to replace the roof covering with light weight artificial slate or sheeting without significant strengthening of the existing trussed rafters. A heavier roof covering is also feasible subject to detail structural assessment and local strengthening of the timber trusses.

E. With normal good construction practice in place it will be possible to convert the existing barn without risk of collapse.

F. For long term durability and compliance of the future residential building it is recommended:

- The foundations are underpinned to 750mm below ground level to comply with current guidance for foundations in Clay.
- The timber Posts labelled detail A on plan below should be provided with steel shoes at support on the block walls.
- The crack in approx $2m^2$ of blockwork labelled Repair B should be structurally stitched using resin embedded stainless steel rods, or the $2m^2$ blockwork should be re-built.



Plan of Repair types.

Yours faithfully [redacted]

A. Reza Jalali B.Sc. CEng. M.I.StructE.

Principal: A. Reza Jalali B.Sc. CEng M.I.StructE
Associates
219 Bebington Road
Birkenhead CH42
4QA
reza@arjasociates.co.uk