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Conversion of Outbuilding, Bryn y Cabanau Farm, Marchwiel, Wrexham

Structural Appraisal Report

October 2026

Job No. 2026/153

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Appendix A – Architect's Drawings

1.0 Executive Summary

The outbuilding is a single storey unit generally comprising a steel portal frame structure supporting a pitched roof with profiled sheet finishes. External elevations are finished in a mixture of block and masonry cavity walls. The interior is sub-divided by solid block walls to form a workshop and a series of stores. The ground floor comprises a solid slab. An open ended lean-to is provided along the south west elevation comprising a profiled sheet roof supported off steel portal frames.

Foundation type and depth were not proven; however anecdotal evidence would suggest that mass concrete strip and pad foundations are provided.

The inspection was carried out during the morning of Friday 02nd October 2026.

The overall condition of the outbuilding is considered to be good.

It is apparent that the building has been modified and extended during its life with external and internal walls constructed and a covered external store built off the rear elevation both of which appear to be relatively recent additions.

No significant defects were apparent to the elevations. The elevations have been formed out of a mixture of cavity masonry and cavity block construction incorporating full fill cavity batt insulation. A dpc is provided close to existing ground level. Careful detailing will be required to ensure that the dpc is not bridged in the final scheme. Several new openings which require additional lintels will need to be formed to suit the new internal layout. Internal lining may need to be provided to ensure that the external walls comply with current thermal regulations.

The existing steel portal framing supporting the roof and elevations is in generally good condition. Minor section losses are apparent throughout which have all been painted over with no active corrosion apparent. One of the columns has been cut off in the past and a horizontal beam provided supported off block internal and external walls. The load from the roof will increase as part of the proposed conversion. Therefore, the steel framing will need to be appraised and any necessary strengthening installed.

The roof construction is showing evidence of minor degradation due to historic weather penetration. The conversion scheme proposes a slate roof over which will be significantly heavier than existing. Therefore, the roof timbers will need to be replaced as part of the conversion scheme. The existing portal frames will also need to be assessed for the increased loading and may require strengthening.

The ground floor comprises a concrete slab which appeared to be generally level and in good condition. Although the existing floor incorporates a damp proof course and insulation, it will not meet current thermal requirements. Given the limited headroom within the unit, the existing floor will need to be replaced to meet current regulations.

Gutters and downpipes were intact throughout with a partially visible drainage system apparent around the outbuilding. New roof drainage will be required as part of the conversion scheme. Downpipes should discharge into the drainage system which should be linked to a soakaway remote from the building.

The Clients, Andy and Anne-Marie Hamel, are seeking planning permission to convert the outbuilding into a self-contained dwelling. The proposed works will include the demolition of the covered external store, new internal walls, a new ground and first floors and new roof coverings.

The outbuilding is robustly constructed and is considered to be suitable for conversion into a self-contained dwelling following alterations as necessary.

Report Compiled by:



Andrew Hannett
BEng(Hons), CEng, MICE

2.0 Client's Brief

This report was commissioned by Andy and Anne-Marie Hamel in support of the proposed planning application to convert the outbuilding into a self-contained dwelling. The purpose of the report is to identify whether the outbuilding is suitable for conversion and to confirm the extent of repairs required to ensure viability in the long term.

3.0 Inspection

3.1 GENERAL

The inspection was carried out during the morning of Friday 02nd October 2026. The weather during the inspection was warm and dry. The inspection comprised a visual inspection of those elements readily visible from ground level and from within the outbuilding. No excavations were undertaken to uncover buried elements and any notes on the condition of these elements are made based on the visible condition of the property. Testing requiring the use of specialist equipment or training, e.g. electrical systems, gas appliances, water systems, etc., has not been undertaken. Manhole covers were not lifted and drains were not tested.

The outbuilding is a single storey unit generally comprising a steel portal frame structure supporting a pitched roof with profiled sheet finishes. External elevations are finished in a mixture of block and masonry cavity walls. The interior is sub-divided by solid block walls to form a workshop and a series of stores. The ground floor comprises a solid slab. An open ended lean-to forming a covered external store is provided along the south west elevation comprising a profiled sheet roof supported off steel portal frames.

Foundation type and depth were not proven; however anecdotal evidence would suggest that mass concrete strip and pad foundations are provided.

Elevations and rooms are referenced on Architect's Drawings – refer to Appendix A.

3.2 EXTERNAL INSPECTION

3.2.1 Front Elevation

The front elevation comprises rubble masonry to full height with decorative stone cills to window openings. Windows comprise double glazed unts in PVCu frames. A steel personnel door is located in the centre of the elevation. The roof over comprises profiled sheeting incorporating translucent roof lights.

No significant defects were apparent to the elevation at the time of inspection. The elevation was noted as straight and plumb.



Front Elevation

A concrete plinth is visible at ground level with a dpc clearly visible under the masonry. Given the threshold level at the door, it is likely that the dpc will be at around finished ground level. Careful detailing will be required to ensure that damp is prevented from entering the converted property.



Detail at ground level.

3.2.2 Rear Elevation

The rear elevation comprises blockwork to full height. Windows and doors comprise double glazed unts in PVCu frames. The central personnel door comprises a metal leaf in a metal frame. The roof over comprises profiled sheeting incorporating translucent roof lights.

No significant defects were apparent to the elevation at the time of inspection. The elevation was noted as straight and plumb.



Rear Elevation

A concrete plinth is visible at ground level with a single course of engineering brickwork and a dpc visible below the block cavity wall. Given the threshold level at the door, it is likely that the dpc will be at around finished ground level. Careful detailing will be required to ensure that damp is prevented from entering the converted property.



Detail at ground level.

3.2.3 Left Hand Side Elevation

The elevation comprises rubble masonry adjacent to the front elevation, cavity blockwork at the rear elevation and vertical profiled cladding to the central section. Two roller shutter doors and a steel personnel door are provided within the central section.

No significant defects were apparent to the elevation at the time of inspection. The elevation was noted as straight and plumb.



Left Hand Side Elevation

3.2.4 Right Hand Side Elevation

The elevation comprises rubble masonry adjacent to the front elevation, cavity blockwork at the rear elevation and vertical profiled cladding to the central section. A single double glazed window in a PVCu frame is provided close to the front elevation. A single roller shutter door is provided within the central section.

No significant defects were apparent to the elevation at the time of inspection. The elevation was noted as straight and plumb.



Right Hand Side Elevation

3.3 INTERNAL INSPECTION

3.3.1 Workshop 1

Workshop 1 is currently used as a maintenance bay for vehicles. The roof over is finished with profiled steel sheeting and translucent roof lights supported off regularly spaced timber purlins spanning between steel portal frames. The external elevations are generally finished with cavity blockwork. The floor comprises a concrete slab.

The overall condition of the interior is considered to be good/fair.



General view of Workshop 1.



General view of Workshop 1.

Staining is apparent to the timber purlins supporting the sheet roof finishes. This is indicative of weather penetration through poorly sealed fixings. All areas were dry at the time of inspection which would suggest that the defect is longstanding.

The portal frame steelwork shows evidence of corrosion below painted finishes. Although minor section losses are apparent, this would appear historic as no active corrosion was apparent.

Knee bracing is apparent at high level to the portal columns. This bracing is very lightweight and would only provide marginal restraint. All steelwork was noted as plumb which would indicate that the restraint is adequate. Additional restraint is now provided by cavity external walls and block internal walls.



Typical detail of roof construction.
NOTE: angle section knee braces to portal columns.

3.3.2 Stores 2 and 4

Stores 2 and 4 are currently used as a materials/equipment store. The roof over is finished with profiled steel sheeting and translucent roof lights supported off regularly spaced timber purlins spanning between steel portal frames. The external elevations are generally finished with cavity blockwork. The floor comprises a concrete slab.

The overall condition of the interior is considered to be good/fair.

Staining is apparent to the timber purlins supporting the sheet roof finishes. This is indicative of weather penetration through poorly sealed fixings. All areas were dry at the time of inspection which would suggest that the defect is longstanding.

In order to create an open plan space, one of the portal columns has been cut back and welded to a steel beam spanning between block walls. Some section loss is apparent to the web of the column locally. No evidence of distress or distortion was apparent which would confirm that alterations are adequate.

The portal frame steelwork shows evidence of corrosion below painted finishes. Although minor section losses are apparent, this would appear historic as no active corrosion was apparent.



Modified support to portal column.

3.3.3 Store 3

Store 3 is currently used as a materials/equipment store. The roof over is finished with profiled steel sheeting and translucent roof lights supported off regularly spaced timber purlins spanning between steel portal frames. The external elevations are generally finished with cavity blockwork. The floor comprises a concrete slab.

The overall condition of the interior is considered to be good/fair.



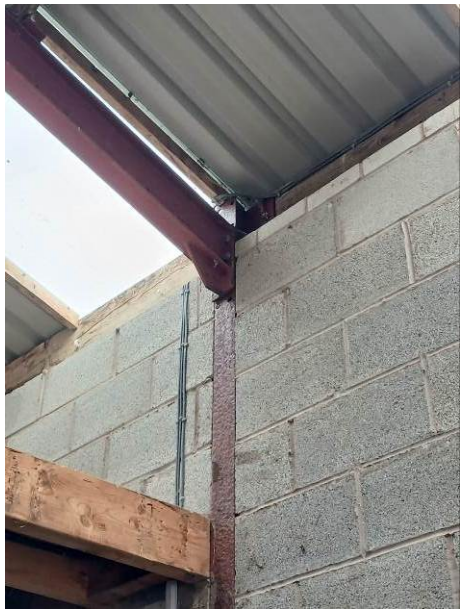
General view of Store 3.



General view of Stroe 3.

Staining is apparent to the timber purlins supporting the sheet roof finishes. This is indicative of weather penetration through poorly sealed fixings. All areas were dry at the time of inspection which would suggest that the defect is longstanding.

The portal frame steelwork shows evidence of corrosion below painted finishes. Although minor section losses are apparent, this would appear historic as no active corrosion was apparent.



Typical portal frame connection.
NOTE: surface corrosion to column below paint finishes.

3.3.4 Covered External Store

The Covered External Store comprises a portal framed extension from the rear elevation of the outbuilding. is located on the north elevation. The roof over is finished with profiled steel sheeting and translucent roof lights supported off regularly spaced timber purlins spanning between steel portal frames. The long elevation is finished with vertical profiled cladding. The floor comprises compacted hardcore.

The overall condition of the area is considered to be good.



General view of Covered External Store.



General view of Covered External Store.

No significant defects were apparent at the time of inspection. No staining was apparent to the roof purlins and no evidence of corrosion was apparent to the steel framing.

4.0 Conclusions and Discussion

The overall condition of the outbuilding is considered to be good.

It is apparent that the building has been modified and extended during its life with external and internal walls constructed and a covered external store built off the rear elevation both of which appear to be relatively recent additions.

No significant defects were apparent to the elevations. The elevations have been formed out of a mixture of cavity masonry and cavity block construction incorporating full fill cavity batt insulation. A dpc is provided close to existing ground level. Careful detailing will be required to ensure that the dpc is not bridged in the final scheme. Several new openings which require additional lintels will need to be formed to suit the new internal layout. Internal lining may need to be provided to ensure that the external walls comply with current thermal regulations.

The existing steel portal framing supporting the roof and elevations is in generally good condition. Minor section losses are apparent throughout which have all been painted over with no active corrosion apparent. One of the columns has been cut off in the past and a horizontal beam provided supported off block internal and external walls. The load from the roof will increase as part of the proposed conversion. Therefore, the steel framing will need to be appraised and any necessary strengthening installed.

The roof construction is showing evidence of minor degradation due to historic weather penetration. The conversion scheme proposes a slate roof over which will be significantly heavier than existing. Therefore, the roof timbers will need to be replaced as part of the conversion scheme. The existing portal frames will also need to be assessed for the increased loading and may require strengthening.

The ground floor comprises a concrete slab which appeared to be generally level and in good condition. Although the existing floor incorporates a damp proof course and insulation, it will not meet current thermal requirements. Given the limited headroom within the unit, the existing floor will need to be replaced to meet current regulations.

Gutters and downpipes were intact throughout with a partially visible drainage system apparent around the outbuilding. New roof drainage will be required as part of the conversion scheme. Downpipes should discharge into the drainage system which should be linked to a soakaway remote from the building.

The Clients, Andy and Anne-Marie Hamel, are seeking planning permission to convert the outbuilding into a self-contained dwelling. The proposed works will include the demolition of the covered external store, new internal walls, a new ground and first floors and new roof coverings.

The outbuilding is robustly constructed and is considered to be suitable for conversion into a self-contained dwelling following alterations as necessary.

5.0 Recommendations

The following items should be addressed as part of any works to the outbuilding to ensure structural viability in the long term:

- Carry out an appraisal of the existing steelwork for additional loading from proposed roof construction. Install strengthening as required.
- Remove existing profiled sheeting roof finishes. Install new/additional timbers as required and install finishes over insulation and breathable membrane as required.
- Install new guttering and downpipes. Roof drainage shall discharge into a new drainage system routed to a ditch or drain or to a soakaway at least 5m from the outbuildings.
- Break up existing concrete floor slab. Provide new concrete ground floor incorporating insulation to modern standards. A dpm should also be provided which shall be lapped or tucked into the new dpc or damp proofing.
- Form new openings in external walls as required. Install cavity lintels over openings.
- Improve thermal efficiency of external walls by the provision of internal dry lining.

6.0 Limitations and Liability

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by Andrew Hannett Limited, no other party may use, make use of or rely on the contents of the report. No liability is accepted by Andrew Hannett Limited for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of Andrew Hannett Limited using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as their accuracy. It should be noted and it is expressly stated that no independent verification of any of the documents or information supplied to Andrew Hannett Limited has been made.

The timber or other parts of the building which are covered, unexposed or inaccessible to the Structural Engineer without the assistance of a ladder in excess of 3m have not been inspected. The report does not cover the condition of the dpc, possible damp penetration or condensation unless specifically highlighted as part of the inspection. Where the property was furnished at the time of inspection those elements of the structure covered over have not been fully inspected. Therefore, it is not possible to confirm that those elements are free from defect.

No excavations were undertaken to uncover buried elements or foundations and any notes on the condition of such elements are made based on the visible condition of the property. No intrusive testing was carried out. Manhole covers were not lifted and drains were not tested. Testing requiring the use of specialist equipment or training, e.g., electrical systems, gas appliances, water systems, etc., has not been undertaken.

This report is not intended to be an exhaustive list of all defects and only significant structural faults which could lead to instability of the structure in the present or future have been reported. Further defects may become apparent during more extensive investigation or during future refurbishment works.

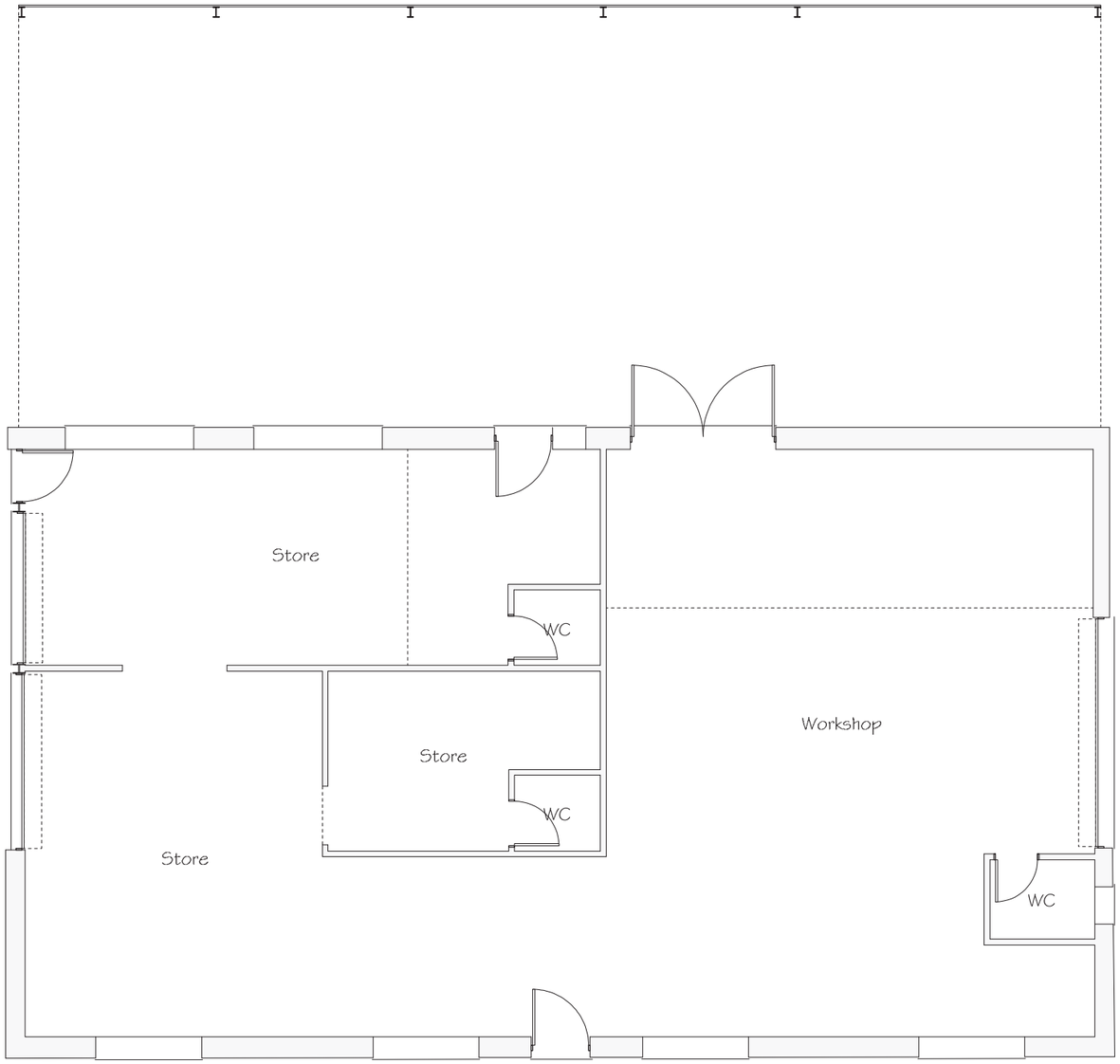
Detailed calculations to determine the adequacy of structural members are outside the scope of this report and have not been undertaken. However, evidence of distress as a result of overloading or deterioration will be identified so that provision for additional works can be made during any future refurbishment scheme.

The report shall be solely used by the Client to determine the extent of works to the property and liability in this respect will be limited to the instructing Client.

Nothing in the Contract confers nor purports to confer on any third party any benefit nor any right to enforce any terms of this Contract pursuant to the Contracts (Rights of Third Parties) Act 1999.

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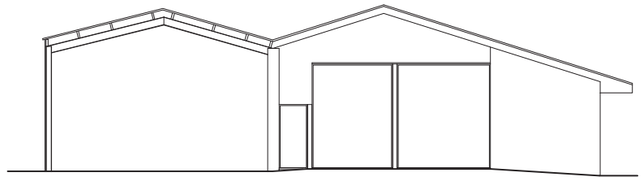
Appendix A – Architect's Drawings



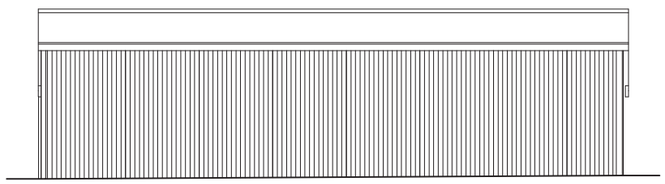
Ground Floor Plan 1:50



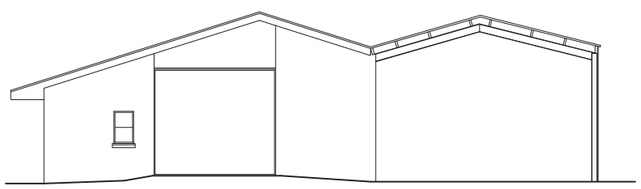
Front Elevation 1:100



Side Elevation 1:100



Rear Elevation 1:100



Side Elevation 1:100

Rev	Date	Detail	Initial
C	09/26	Correction to Plans	A.W
B	09/26	Correction to Plans	D.J.E.

Project: Proposed Alterations at,
Bryn y Cabanau Farm,
Marchwiel,
Wrexham,
LL13 0SR

Title: Existing

Scale: (A1) 1:50 & 1:100

Drawn By: L. Fowles

Date: June 2025

Drawing No: H1178/001

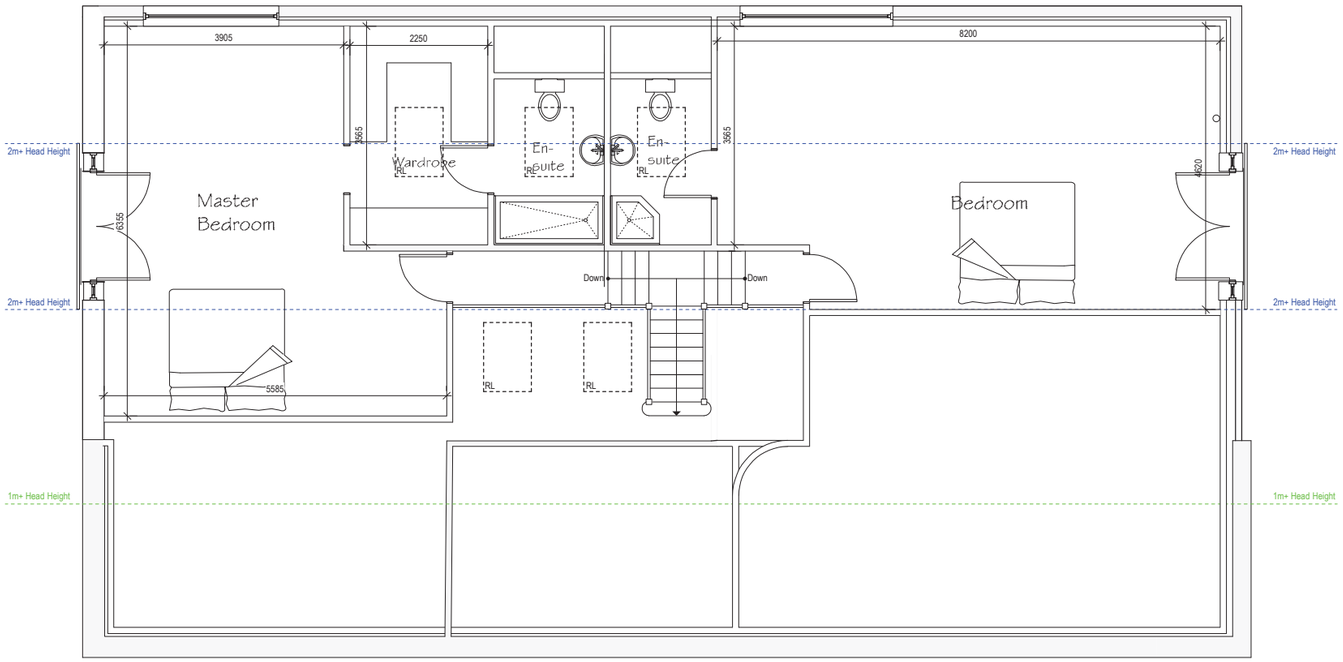
Sheet: 1 of 1

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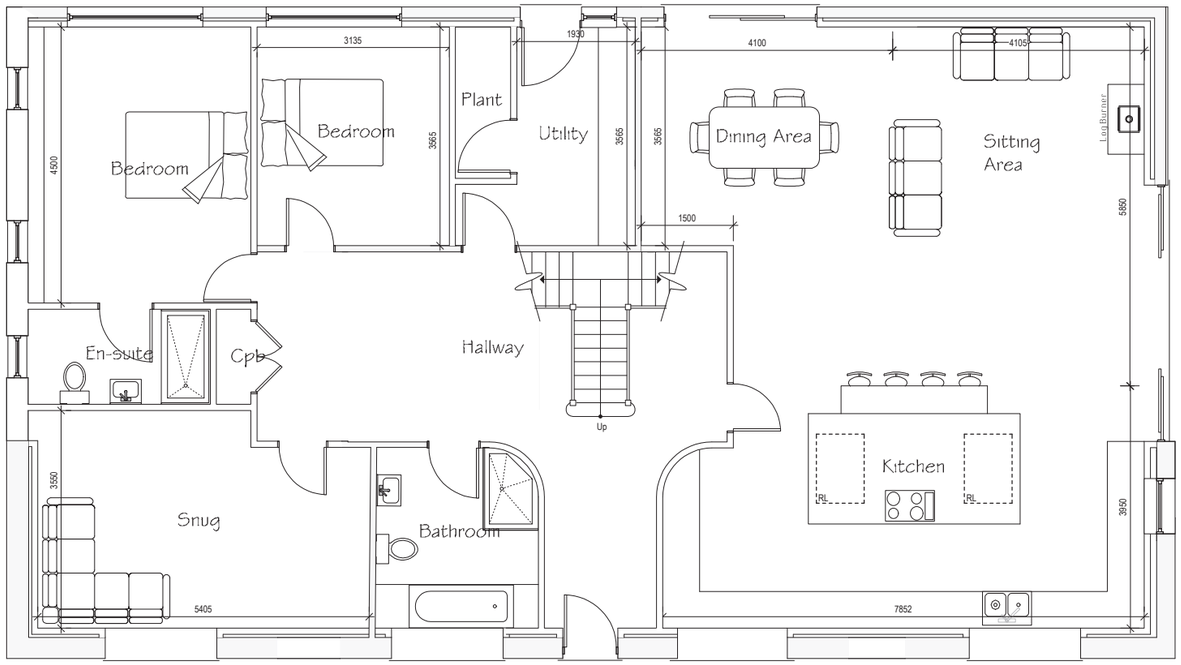
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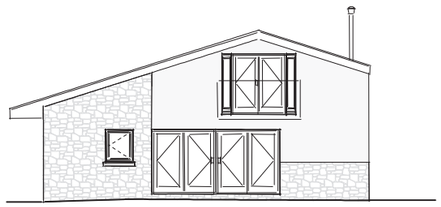
First Floor Plan 1:50



Ground Floor Plan 1:50



Front Elevation 1:100



Side Elevation 1:100

External Facing Materials
External walls are to be render and stonework as illustrated.

Roofing Materials
Roof coverings are to be natural slates to local authority approval.

Windows
All windows are to comprise sealed double glazed units set in uPVC frames. Shower room windows are to be fitted with obscured glass.

Facias & Soffits
All fascias and soffits are to match existing.

Rainwater Goods
Rainwater to be collected in 100mm diameter half round uPVC guttering and 65mm diameter uPVC downpipes, to discharge to soakaways located in garden.

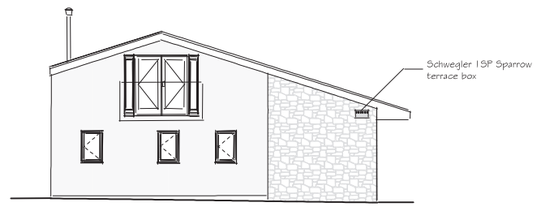
Green Infrastructure Statement
The proposed site occupies a developed plot of land. Existing green infrastructure within this parcel of developed land is limited. Removal of an attched structure will allow the site to be improved naturally allowing lawned and landscaped areas to be included as part of the proposed change of use. Existing boundaries are to remain as existing with suitable changes to the boundary treatment, such as erection of fences where required to ensure security of the site. As documented it is proposed the development includes the erection of a bird box in position indicated to provide a net biodiversity gain for the site.



Schwegler 1SP Sparrow terrace box to be fitted upon completion of the development.



Rear Elevation 1:100



Side Elevation 1:100

Rev	Date	Detail	Initial

Project: Proposed Alterations at, Bryn y Cabanau Farm, Marchwiel, Wrexham, LL13 0SR

Title: Planning

Scale: (A1) 1:50 & 1:100

Drawn By: D.J.Edwards

Date: May 2025

Drawing No: H178/003

Sheet: 1 of 1

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