

# C188

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BARN ADJACENT TO  
GLANMEIRCHION,  
DENBIGH.

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DESIGN AND ACCESS  
STATEMENT

REV A 13.APR.11 - Section 3.2 Ecological  
mitigation revised



creu

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## 1. INTRODUCTION

1.1 This Design and Access Statement (DAS) accompanies a Planning Application for the conversion of the former agricultural outbuilding at Glanmeirchion, Denbighshire into 1No Dwellinghouse.

1.2 The building was granted detailed Planning Approval reference no 01/2010/0138 in 2010 for:

*'Conversion Of Existing Outbuildings To Form 2 No. Dwellings, Installation Of 2 Package Treatment Plants And Construction Of New Vehicular Access'*<sup>1</sup>

1.3 This Design Statement is prepared following guidance on Design and Access Statements listed in the Welsh Assembly government Planning policy Wales, Technical Advice Note 12: Design (TAN 12).

## 2. SITE INFORMATION

2.1 The site is located to the West of the Glanmeirchion Farmhouse. Vehicular access is from the South via a drive that runs off the A543.

2.2 The Outbuilding at Glanmeirchion, is of an age that requires a high maintenance programme to keep it up to adequate standards to comply with present day animal welfare regulations.

2.3 The current Planning Approval Notice for this building confirms that this proposed development complies with Planning Policy.

2.4 The Site at Glanmeirchion has a rural farming character. The current building fabric is solely intended for farming activities and is not capable in its current form to be used as a dwelling due to the thermal limitations of the current fabric and the amount of natural daylight that enters the building. 'Design for Daylight' will be used to improve the living quality of the proposed dwelling.

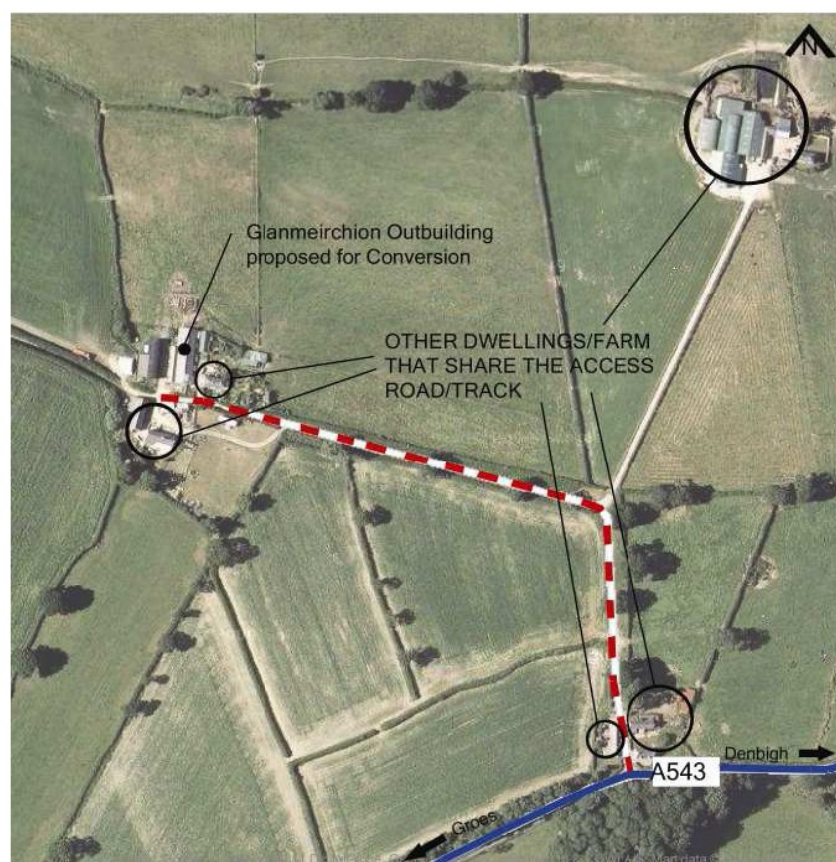
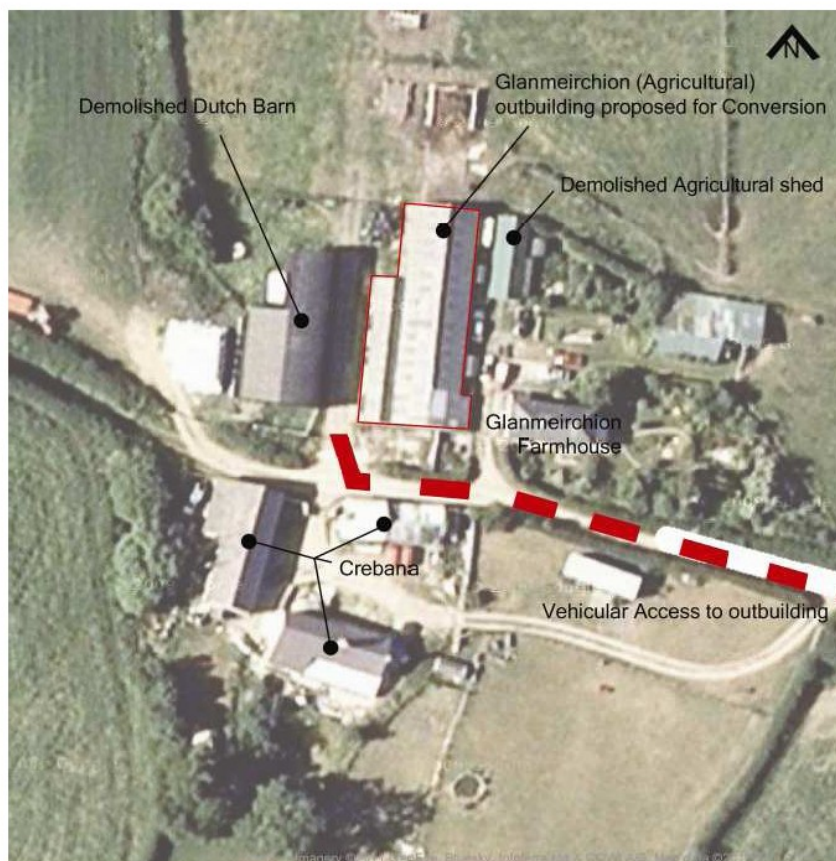
2.5 This design intends to retain the existing character of the building as far as possible. The building materials chosen will suit the traditional context of the Barn in a contemporary manner, using a combination of modern-day and traditional materials whilst retaining the existing vernacular character.

2.6 The site is surrounded by agricultural land to the North and West and sits next to the farmhouse which is to the East. To the South of the site is Crebana, which is a combined dwelling and workspace currently being used as an Animal Spa. The access road from the A543 is shared with Tan y Marian Farm, Crebana, Glan Meirchion Farm House, Efail – Gwaynynog and Gwyness Cottage.

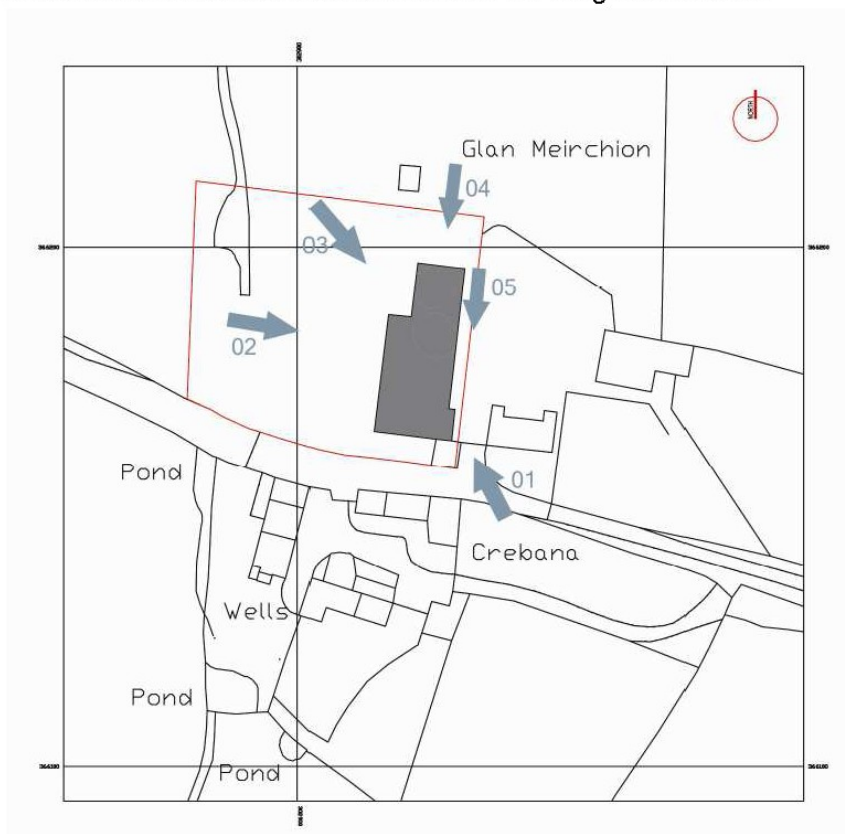
2.7 The following images show the Barn proposed for conversion, its neighbouring buildings and the access road. The second image shows the other properties that share the Vehicular access road to the proposed site.

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<sup>1</sup> Extract from the Existing Planning Approval Notice



2.8 The image below shows a location plan with the proposed site outlined in red. The image is annotated with arrows which show the directional view of the images that follow.



2.9 Image 01 below looking from the South East is taken from the access road. The photo shows the Red brick Glanmeirchion Barn proposed for conversion centrally with Glanmeirchion Farmhouse to the right. This image shows the roof profile of the main barn (Grid: 3-5, A-G), the lean-to outbuilding (Grid: 1-3, Ca-G) and the store at the South end (1-6, G-H).<sup>2</sup> It also shows the two large door openings on the South of the building. This is the first view of the barn from the main vehicular access.



<sup>2</sup> See Creu Drawing C188/PL04. Gridlines for existing building breakdown

2.10 Image 02 below looking from the West has the smaller lean-to outbuilding in the foreground and the main barn beyond. The image also shows the existing openings on this main elevation and the gradual slope of the site ( see Topographical Survey <sup>3</sup> for Lines and levels information corresponding to this photograph ). The existing walls of the barn are constructed of red brick with concrete lintels above large single glazed steel framed external windows. Door openings have black painted sliding timber/ steel doors.



2.11 Image 03 below looking from the North West views the Main Barn to the left and the lean-to outbuilding to the right.



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<sup>3</sup> Drawing C188/PL02

2.12 Image 04 looking from the North is views the gable end of the main barn. The picture shows the exposed steel lintel and the concrete plinth for access to the opening.



2.13 Image 05 below looking from the North has Glanmeirchion Farm House to the left and the main barn to the right. The Photo shows the existing windows and lintels as explained in 2.6.



### 3. CONSTRAINTS/ OPPORTUNITIES

#### 3.1 Structure - The following are summarising extracts from the Structural Survey:

*'We believe that structurally, the building is in reasonable condition and could be adapted to provide domestic dwellings.*

*The ground conditions appear favourable from the TP carried out in the area, with the building bearing onto competent strata of granular material.*

*The roof structure to all these areas appears in good condition. Converting the building to dwellings would more than likely result in an increased loading on the roof structure. If so, then an analysis of the roof trusses and purlins will be required to prove their adequacy for any additional loading during the scheme design stage D.'*

*'The masonry of the west elevation of the outbuildings are far from being true, with the brickwork being out horizontally by a magnitude far greater than normal construction tolerances. Since there were no signs of distress or movement to the west elevation, we believe that the masonry was constructed in this fashion and is a result of very poor workmanship. We recommend that the defective masonry is reconstructed.*

*We would recommend that parts of the masonry should be re-constructed along the west elevation where poor workmanship of the masonry exists.'*

*'The roof to the stores located at the south gable end is a continuation of the shippon roof. Due to the modest spans the cant timber purlins bear directly onto the gable wall and separating wall without the requirement for a roof truss.*

*Several previous window openings have been bricked up on the gable end.*

*No signs of distress or movement were noted'.<sup>4</sup>*

#### 3.2 Ecology

##### Bats

*'Although no bats were detected to roost inside either of the outbuildings during the above survey, a significant amount of bat activity was confirmed near the buildings and a few bats were seen foraging inside the shelter of the two large units. as there is evidence of recent bat activity in and around the main building, then there may be a potential impact on bats, depending on the extent and details of any proposed future development. Hence consideration for bat mitigation must be taken into account when designing and developing the site.'<sup>5</sup>*

The proposed conversion provides the following bat mitigation:

- 250x 100mm open access below eaves on Eastern elevation into unheated store grid 1, G-H
- 2No bat soffit access points are located on the Southern Elevation grid H, 1-3
- A 300mm dia circular opening is to be introduced to the main southern gable providing access to the full height open unheated store grid 4, H
- An area of brickwork is to be left with recessed pointing on the Southern Elevation.

<sup>4</sup> Extract from Atkins Structural Report Ref:5055832.135/SS/332.G924

<sup>5</sup> Extract of North Wales Bat Services Bat Mitigation Guidance 22.May.10

## Birds

*Mitigation for loss of nesting sites for swallows, sparrows, thrushes and other small birds may have to be considered. the timing of the works should be such as to avoid the breeding and nesting time ( approximately April to August inclusive ). Consider retaining a few accessible nests holes in the external walls of the renovated building. Other mitigation may take the form of the provision of open porches, retention of some open roof voids, providing an accessible covered area in any new outbuildings such as garages, etc, and provision of appropriate nesting boxes.<sup>6</sup>*

The proposed conversion provides the following bird mitigation:

- 300mm dia opening in the Southern gable allows access to the full height unheated store
- the porch/ roof canopy at the main entrance is open grid E, 1-2
- nesting recesses will be included in the timber cladding along the Eastern and on the North elevation.

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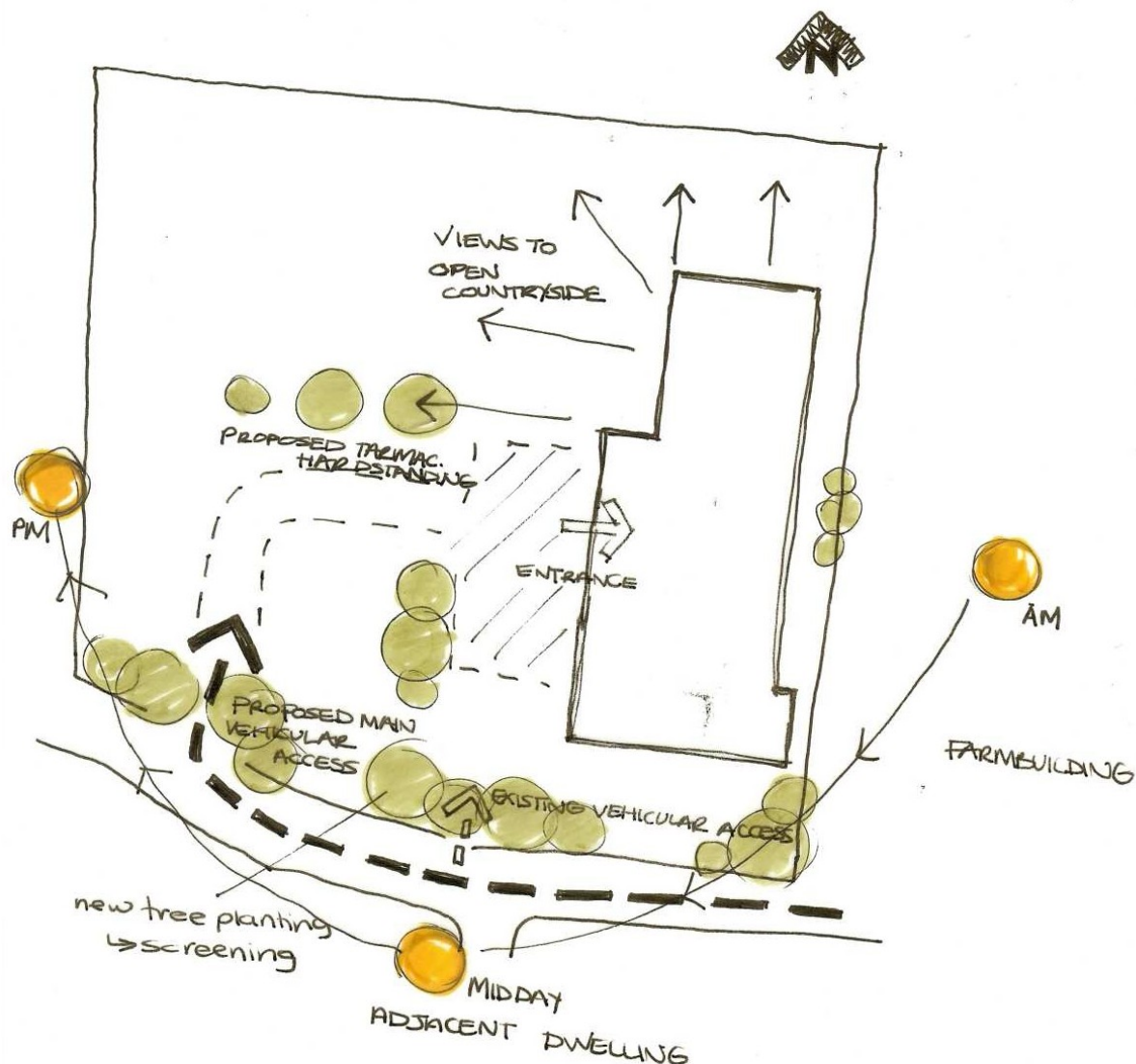
<sup>6</sup> Extract of North Wales Bat Services Barn Owl and Nesting Birds Survey ( Aug.09 )

## 4. VISION

4.1 The design proposal includes the conversion of the existing barn at Glanmeirchion into a Three Bedroom dwelling and studio space.

### 4.2 Site Concept

4.3 The design considers the main views from the site to the North West and the privacy requirements from the South. The image below shows the concept for the site layout of the proposed development.



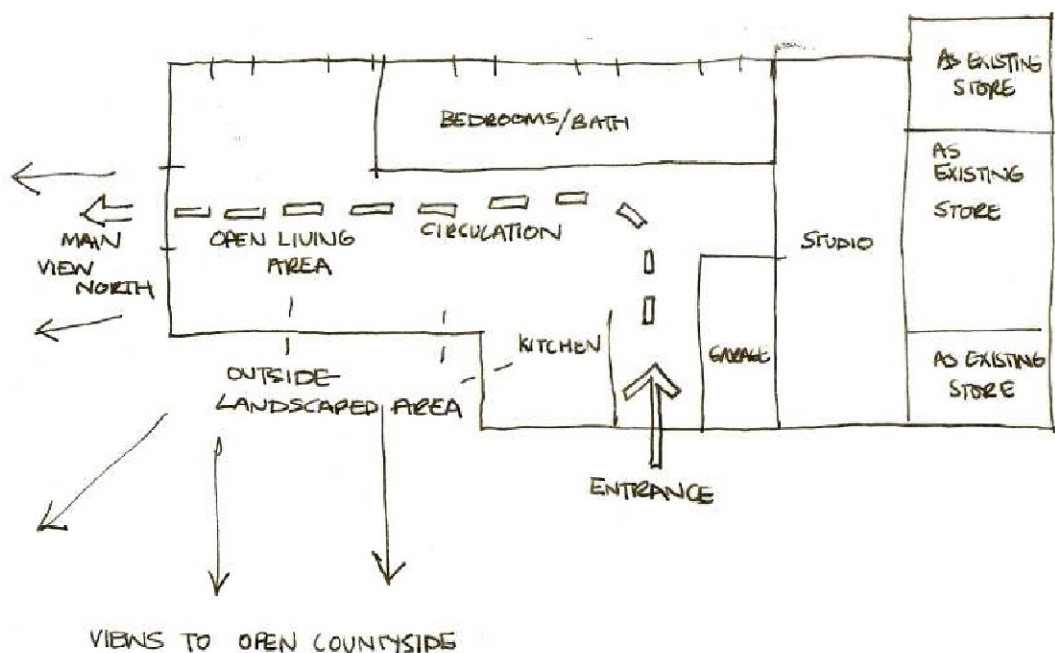
- Vehicles accessing the site will continue up the existing Vehicular access road/track and enter at the South West corner of the site.
- Vehicle parking and turning areas will be located to the West of the lean-to outbuilding.
- Part of the lean-to outbuilding will house an integral garage
- Native species screen planting will be introduced to the boundary between the site and the access road to reduce the impact of the development.
- The accommodation layout will attempt to make the most of the North West outlook of the site to open countryside.

## 4.2 Parking Provision

4.3 There will be hard standing for a minimum of 4 cars as well as an ample turning area within the site.

## 4.4 Building Layout

4.5 The image below shows the concept for the layout of the proposed conversion



- The main entrance will be from the West and will access the main circulation within the centre of the building. The entrance porch is within the existing walls of the lean-to outbuilding and will be sheltered by the existing roof profile
- The service and living accommodation spaces are separated by the internal circulation. The living accommodation is situated to the North where the North Western views can be optimised. The ancillary spaces are situated in the South because of lack of privacy with the road and adjacent buildings and the lack of outlook.
- Circulation is located at the centre of the building where the view through the North-facing gable is emphasised and encourages passage through the building.
- The stairs down to the open living area or up to the master bedroom are located centrally below the main ridge

- Two floor levels have been created at the North end of the building which provides key elevated views of the country side. The Foundation Trial pits contained within the Structural report gave evidence that this scheme was feasible.<sup>7</sup>
- The bedrooms are situated on the East side, receiving sunlight in the morning.

#### 4.6 Building form

4.7 The existing barn and outbuilding has a double-pitched roof profile as seen in the image below.



4.8 The following is an extract of Denbighshire County Council Supplementary Planning Guidance Note 16: Conversion of Rural Buildings:

##### *5.6 Quality of Conversion*

###### *(a) Extension/alteration*

*Generally, the building should be capable of conversion without the need for extensions and alterations. The roof line should not be altered or raised and dormers will almost always be inappropriate, unless they are traditional to other buildings in the locality<sup>8</sup>*

4.9 The design adheres to guidelines of this policy because:

- The Conversion will have a new roof which will follow the existing pitched roof lines.
- There will be no extensions to the existing building form.
- All alterations are sympathetic in scale and appearance to the vernacular character of the building.
- There are no dormer windows proposed

<sup>7</sup> Extract from Atkins Structural Report Ref:5055832.135/SS/332.G924

<sup>8</sup> Extract from Denbighshire county Council: Supplementary Planning Guidance Note No.16

#### 4.10 Building Materials

4.11 The thermal performance of the external fabric of the building will need to be improved to meet compliance with Building Regulations Approved Document Part L. To make the most of thermal mass of the existing walls/external envelope, the wall insulation will be situated externally and covered with timber board cladding. This boarding in addition to a combination of forgiving rustic palette of materials will maintain the vernacular character of the proposed development. These include:

- Chorus Colorcoat pre-finished steel external weathering profile roofing panels profile R32<sup>9</sup>
- Low profile Roof Lights<sup>10</sup>
- Larch Timber Cladding
- Existing brickwork repointed with lime mortar
- Existing or reclaimed brick to match existing pointed with lime mortar.
- Eternit Natura pro Fibre cement board for the fascia, soffit, bargeboard and verges.
- Dark grey powder coated aluminium rainwater goods.

4.12 The proposed timber external cladding is sympathetic and vernacular in character to suit this converted Agricultural building. Larch is a soft coloured timber and silvers when weathered, which will appear subtle and respectful to the site context.

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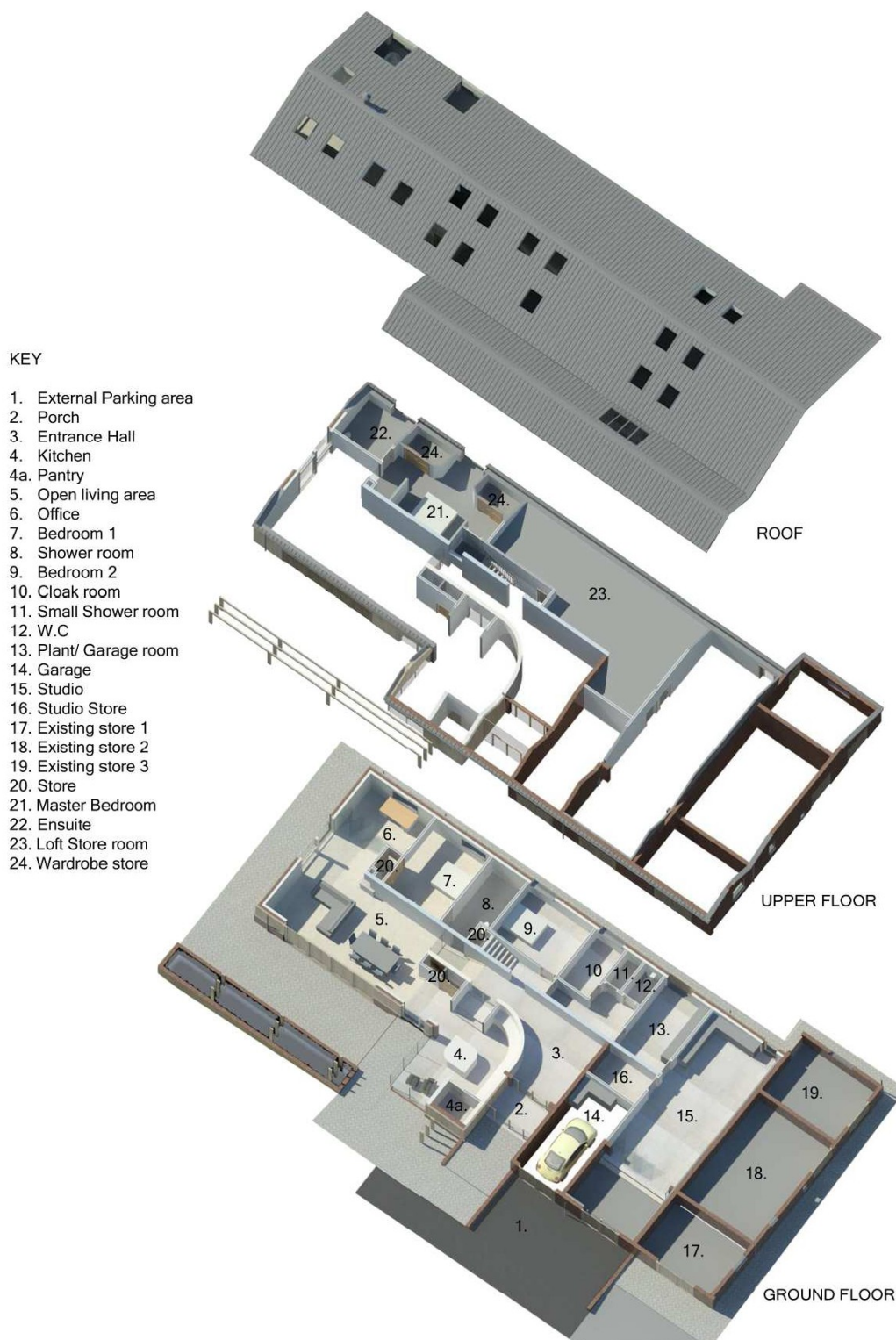
<sup>9</sup> See Manufacturers profile details in the Appendix

<sup>10</sup> See Manufacturers details in the Appendix



### 5.3 The layout as proposed

5.4 The image below shows the layout for the proposed internal accommodation. A concerted effort has been given to maintain the character of the existing building utilising a high proportion of existing openings for windows and doors.



5.5 The North end of the main barn will be the main living area and is generally open plan. The finished floor level is below the existing floor level which is made possible by the fact that existing foundations at the North gable end are of sufficient depth<sup>12</sup> and creates a full height living area which

<sup>12</sup> See Appendix 5: Structural survey Trail Pit Analysis extract

emphasises the drama of the barns scale. The master bedroom above this end gives great viewing opportunities to the North and East.

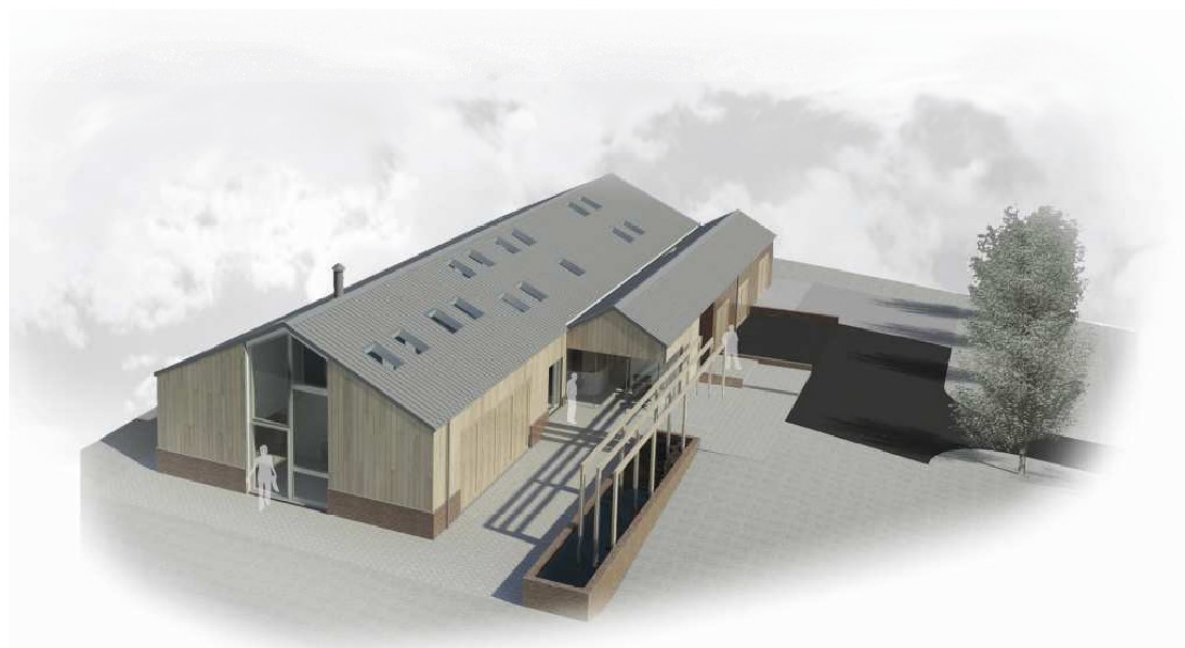
5.6 The internal circulation encourages passage to the open living area/double height space and the large feature window which is further enthused by roof lights that sit directly above. The existing roof structure of the main barn consists of steel trusses at 4.6m centres, supported by brick column extensions to the external wall. To support the weight of a new roof which will need insulating to meet compliance with Building Regulations Approved Doc L the roof will be removed and reconstructed with a central steel ridge beam supported by internally load bearing walls.

5.7 The image below shows a view of the proposed development from the North West. The main barn is to be clad externally with Larch timber over rigid insulation to provide a thermally efficient envelope with a vernacular appearance.



5.8 Most of the West lean-to outbuilding will remain as brick with timber cladding to the Northern end to emphasise the entrance into the dwelling. The materials tastefully blend with the proposed door openings and landscape features for this design.

5.9 The unfinished larch timber structures to the North West of the building are a soft transition between the landscape and the building form and accentuate the height of existing openings.



5.10 The following is an Extract of Denbighshire's Supplementary Guidance Note No16:

*'(c) Elevational changes*

*(i) Windows and Doors*

*The difficulty experienced in conversion schemes is to enable sufficient natural light into a building, without the creation of a considerable amount of new openings (fenestration) which would seriously damage its existing character. Wherever possible, existing openings should be retained and new openings should be kept to a minimum.'*<sup>13</sup>

5.11 The proposed elevational changes are respecting of the above guidance because

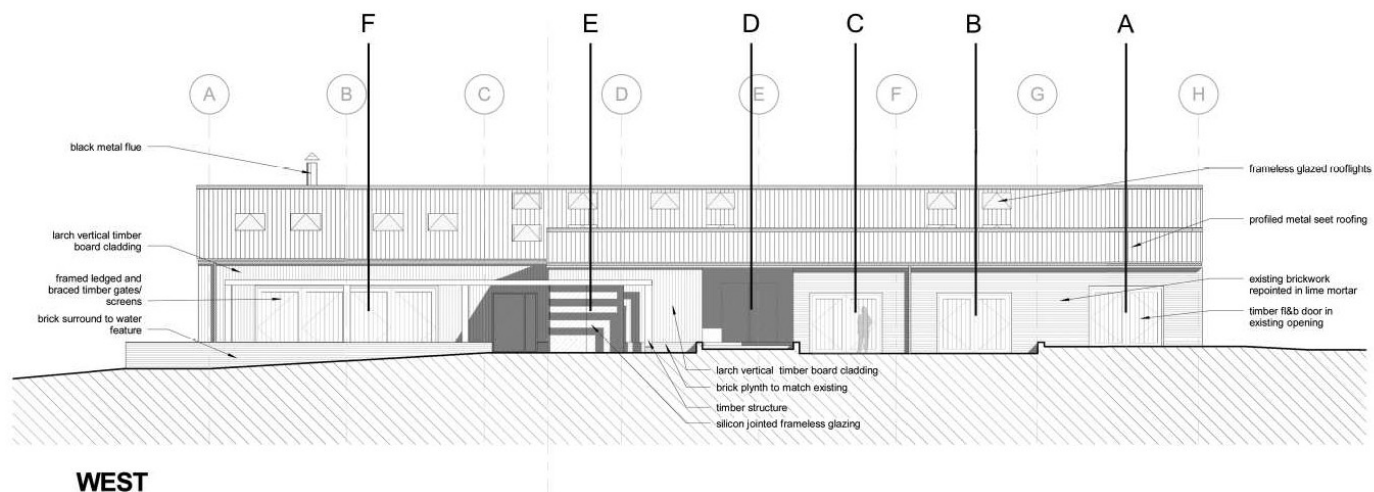
- the majority of the openings on the proposed development are as existing or enlarge in the same location to obtain better natural lighting internally.
- the fenestration on the West elevation respects the level of the existing windows and doors.
- where new openings have been introduced they respect the scale of other adjacent openings.

5.12 The two images below compare the existing and proposed West Elevation. The majority of the changes to this elevation are justified by the respect that they have to existing features and the positive impact that they have on the design proposal as a whole.



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<sup>13</sup> Extract from Denbighshire county Council: Supplementary Planning Guidance Note No.16



- WEST**
- A. Existing openings maintained.
  - B. New opening created from an existing door and window opening duplicates the size and proportion of adjacent openings to maintain a sense of rhythm on this elevation
  - C. Former opening reformed.
  - D. This is the main entrance to the barn which will have the external wall removed between the existing internal walls of the lean-to outbuilding to provide a covered entrance.
  - E. The former door opening to the Northern elevation is extended along the Eastern elevation to provide natural daylight into the kitchen area. The opening respects the proportion of the other existing openings.
  - F. This opening has been formed by joining two existing window openings respecting the level of the existing head and provides extensive views to the West and North West from the main living accommodation. External timber doors/ screens will provide thermal shelter for both winter and summer.

5.13 The enhancement to the quality and character of the Barn by the sympathetic renovation and conversion proposed in this development justifies it's compliance with Planning Policy.

## 6. ACCESSIBILITY

6.1 Due to the remoteness, the primary access to the site will be by vehicle.

6.2 The primary access to the dwelling will be from the designated parking spaces as indicated on the proposed site plan.<sup>14</sup>

6.3 The access to the dwelling will comply with the requirements of Building regulation Approved Document M (2004 edition) because:

- A suitable approach will be provided from the point of access to the entrance (the garage and designated parking spaces). The point of access will be reasonably level and the approach will not have cross falls greater than 1:40.
- The approach will have a gradient which is not steeper than 1:20 with a surface which is even and firm with a width not less than 900mm

6.4 The access into the dwellings will comply with the requirements of Building Regulation Approved Doc M (2004 edition) because:

- An accessible threshold will be provided into the entrance

6.5 The entrance door into the dwelling will comply with the requirements of Building Regulation Approved Document M (2004 edition) because:

- It has a clear opening that exceeds the minimum clear opening of 775mm

6.6 The corridors and other access routes in the entrance storey of the dwelling will comply with the requirements of Building Regulation approved document M (2004 edition) because:

- The corridors and other routes in the entrance storey serving habitable rooms and rooms containing a W.C has an unobstructed width in accordance with Table 4 of Approved Document M (2004 edition)
- Short lengths (no more than 2 metres) of local permanent obstruction in a corridor, such as a radiator still maintains a 750mm unobstructed width and is not placed opposite to a door into a room which would restrict wheelchair access.
- Doors to habitable rooms and a room containing a W.C have a minimum opening width as indicated in Table 4 of Approved Regulation Document M (2004 edition)

6.7 The switches and socket outlets for lighting and other equipment in habitable rooms will be at appropriate heights between 450 and 1200mm above the finished floor level.

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<sup>14</sup> See drg C180/PL02

## 7. ENVIRONMENTAL SUSTAINABILITY

7.1 The development has been designed to reduce the demand for energy and carbon emissions with the following areas being given considerable attention:

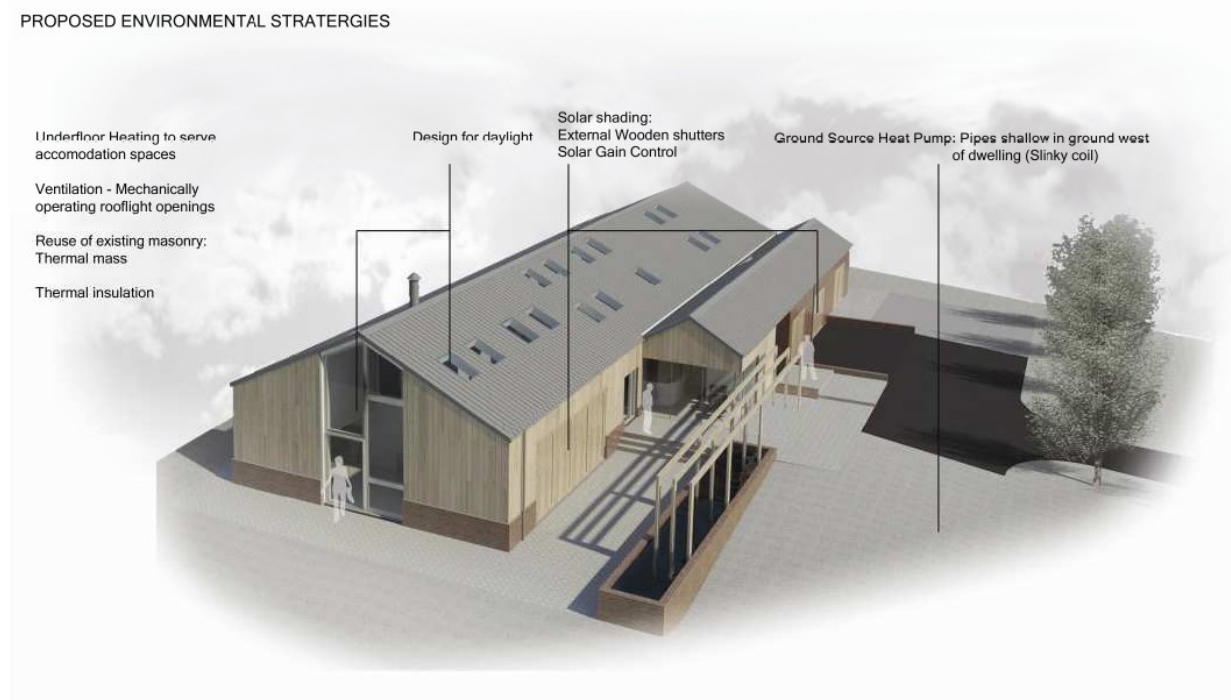
### Passive Environmental Systems

- Thermal mass
- Solar shading
- Thermal Insulation
- Design for daylight
- Reuse of existing masonry

### Active Environmental Systems

- Ground source heat pump
- Under floor heating

7.2 The image below highlights the location of environmentally aspects of the design.



7.3 The proposed development will make reference to the Code for Sustainable Homes to assist in promoting sustainable building practise for the project.

7.4 The proposed development facilitates for home working, which is considered a sustainable alternative to commuting to work.

7.5 Internal potable water consumption will be reduced by the specification of appropriate appliances.

7.6 All insulating materials will avoid the use of substances that have a global warming potential (gWP) of 5 or more (and an ozone depleting potential of zero) in their manufacture or composition for the roof, walls, floor, hot water cylinder and pipe insulation.

## 8. COMMUNITY SAFETY

8.1 In considering the layout of the design, attention has also been given to crime issues. The barn and lean-to outbuilding is in close proximity to neighbouring property optimising natural community surveillance. The design will ensure that parking and other necessary external spaces are well lit and in accordance to the necessary parameters for Bat preservation.

8.2 In addition the proposed dwellings windows, doors and locks will be designed to meet 'secured by design' standards.

## 9. DENBIGHSHIRE CC PLANNING POLICIES

9.1 Policy HSG 9 – residential conversion of rural buildings to dwellings:

*Policy HSG 9 - residential conversion of rural buildings to dwellings*

*The conversion of an existing rural building to a dwelling in the open countryside will only be permitted where it has been demonstrated that sufficient and reasonable attempts have been made to (a) secure a business use for the building or (b) secure a residential use where it is a subordinate part of a scheme for business use, and that these options are unfeasible, unsuitable and unacceptable and provided that:*

*I) the building is structurally sound and capable of conversion without major or complete reconstruction. A detailed independent structural engineer's report on the condition of the building will be required as evidence to support the application;*

*II) the scheme of conversion respects traditional local building styles and materials and any inherent historic or architectural features of merit in the building are retained;*

*III) the residential use of the building and curtilage does not have an unacceptable effect on the character and appearance of the countryside by virtue of sitting, scale, form, design, materials and landscaping;*

*IV) the proposal must provide adequate standards of residential amenity, including private open space, having regard to nearby agricultural and commercial operations;*

*V) where the scheme of conversion creates more than one unit, particular regard will be taken of the overall impact of the units in terms of ancillary domestic activities on the character of the building and its locality. Where permission is granted permitted development rights may be restricted to help retain the original scale and character of the building to be converted;*

*VI) in cases where the building is, or was previously used for industrial or commercial purposes, the applicant has made reasonable attempts to secure a suitable business re-use for the building.*

*VII) the proposal does not adversely harm nature conservation or archaeological interests'*

9.2 The proposed conversion of the Barn adjacent to Glanmeirchion into a residential unit complies with Denbighshire's Policy HSG 9 because:

- the building is structurally sound and capable of conversion without major reconstruction.