

Mr A Wright

# **Barn at Parsonage Farm, Church Street, Ribchester, PR3 3YE**

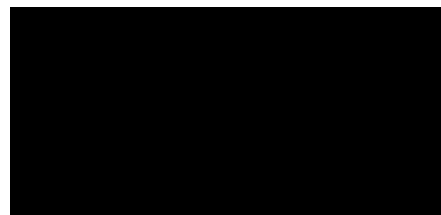
## **Structural Condition Survey for Conversion to Dwelling**



PSC-690-CAR1 – Rev A

June 2023

Paul Snape Consulting  
The Granary  
Woodfold Farm  
Crombleholme Fold  
Goosnargh  
Preston PR3 2ES



Mr and Mrs A&J Wright  
Structural Condition Survey  
Parsonage Farm, Ribchester

## Contents

- 1.0 Terms of reference
- 2.0 Purpose of the survey
- 3.0 Description of Building
- 4.0 External survey
- 5.0 Internal survey
- 6.0 Suitability for Conversion
- 7.0 Conclusions
  
- Appendix A – Drawings
  
- Appendix B - Photographs

Mr and Mrs A&J Wright  
Structural Condition Survey  
Parsonage Farm, Ribchester

**1.0 Terms of reference**

Paul Snape was appointed by Mr and Mrs A&J Wright to carry out a visual structural inspection and produce a structural condition survey report for the existing brick barn at Parsonage Farm, Ribchester. This barn is one of two buildings surveyed at this location.

**2.0 Purpose of the survey**

It is proposed to convert the barn to form two new dwellings. Proposals for the barn have been prepared by PGB Architectural Services Ltd and they have provided details of the existing layout which are included in Appendix A, together with details of the proposed layout. The visual structural survey is required to confirm the current condition of the buildings and to assess their suitability for conversion. There are photographic records of the building in Appendix B and these are referenced throughout the report.

The drainage and electrical systems of the building have not been inspected. These will be renewed as part of the proposals and detailed for Building Regulation purposes.

We have not inspected parts of the structure that are covered, unexposed or inaccessible. Hence we are unable to report if such parts of the property are free from defect.

Our inspection was undertaken on 6<sup>th</sup> May 2022 at which time the weather was dry and overcast.

The survey was undertaken by a Chartered Civil Engineer, Paul Snape BEng (Hons) CEng MICE

**3.0 Description of Building**

The barn is a brick building with a slated, pitched timber roof and concrete ground floor. The original date of construction of the building is not known, however features of the building, particularly the roof timbers and the triangular brick piers suggest an 18<sup>th</sup> century construction date, possibly adapting an older building. The building has had extensions added to the North West, South West and North East of the building. These extensions appear to have replaced parts of the original building or earlier additions.

The building, together with one other building proposed to be converted, are located to the south of the farmhouse which is located within open countryside to the west of Ribchester.

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Parsonage Farm, Ribchester

#### 4.0 External Survey

##### **North East Elevation (Photos 1 to 16)**

The original brick wall to this elevation is constructed with clay brick and is approximately 400mm thick. The wall has a pebble dashed render. Single storey extensions have been added to this elevation as can be seen in Photo 1. The proposals indicate that these are not proposed to be retained. In addition, the original barn has been extended to the northwest with a blockwork extension which has also been pebble dashed (photo 2). This extension appears to have replaced two original bays of the brick barn as evidenced by internal inspection and exploratory excavations externally. The walls to this elevation are generally plumb, the render is in reasonable condition and free from signs of movement. The elevation benefits from guttering and downspouts.

The original barn door (photo 5) has been blocked up with concrete blocks. Photos 5 to 7 show the original unrendered brickwork and the timber to the roof/overhang. The brickwork is in good condition, reasonably pointed and generally plumb. There are two high level window openings in the original wall, above the single storey extension (photo 9). At the eastern end there is a further window opening at ground floor level (photo 14). The original brickwork can also be seen in photo 15 which shows an area adjacent to the gable where the render has been removed at a low level. Again, the brickwork appears in good condition given the age of the building.

The single storey extensions are built in 220mm concrete block and have a shallow pitched profiled sheet roof. They are formed by three rooms with a door to each plus two small windows and a hatch at ground level. The walls are plumb and free from movement and damage.

##### **South East Gable (Photos 17 to 21)**

The elevation is a 500mm thick brick wall. It appears to have had an extra skin of brickwork added externally using Accrington Brick. The wall is in good condition, plumb and well pointed. There is no sign of structural movement. The elevation has a large door opening with a window above (photo 17). There are 3 vents in the brickwork above the window (photo 20). Photo 21 shows the steel column to the large steel framed extension to the south.

##### **South West Elevation (photos 22 to 31 and 49 & 65)**

The south elevation of the brick barn sits within the large steel framed extension to the south as can be seen in photo 23. The brick walls are 400mm thick and the photographs illustrate that the wall has been repaired or had sections blocked up with concrete blocks (photos 29 to 31). There is a large opening in place at the eastern end (photos 23 & 24). A further window opening is in place at a high level towards the western end and this can be seen in photo 49. The walls are plumb and generally well pointed. There is no sign of movement to the wall.

Photos 27 and 28 show excavations below the current floor which indicate that the large steel framed building to the south of the brick barn probably replaced a traditional rear section of a

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Lancashire barn. The excavations indicate footings to such a building in place below the existing floor.

The section of wall on the south elevation of the extension at the west end can be seen in Photo 65. This is a block wall with pebble dashed render. The wall appears free from movement and in reasonable condition.

## **North West Gable (Photos 1, 57, 58 and 32 & 65)**

As noted above, the brick barn appears to have originally extended by a further two bays to the west. These bays appear to have been replaced by the blockwork extension at the west end. This is further evidenced on photos 57 & 58 by the presence of a block wall constructed immediately adjacent to the barn door and located directly below a truss. This is clearly not original, and a truss would not have been located at the gable. This block wall is constructed with 200mm blockwork and is plumb and free from movement. There are two openings at ground floor through to the extension. The truss has been left open as can be seen on Photo 58.

The new gable wall to the extension is shown on photos 32 and 65. This a rendered block wall, it is plumb and is free from movement. The elevation has a long window opening at ground floor level and a single window above. The longer window has a steel beam supporting the blockwork which is in reasonable condition.

Photo 1 indicates slates to the gable where the extension abuts to the original barn.

## **Roof External (Photos – 10 to 12)**

The main roof is slate on traditional rafters, purlins and trusses which are discussed further below. The external views indicate the slates to be in good condition with no loss or damage. The roof appears not to have suffered from any major movement or deflection when viewed externally.

The steel sheeting to the extended sections appears to be in reasonable condition with no major damage or loss.

## **5.0 Internal Survey**

### **Ground Floor – Single storey extensions to north elevation (Photos 33 to 39)**

These areas are not proposed to be retained but inspection gives an indication of the state of the original brick walls to the main barn. This has been rendered at lower levels and areas have been infilled with block (photo 38). The original brick wall and the newer block walls are all free from structural movement and plumb.

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## **Main Barn (Photos 40 to 58)**

The main barn is an open building to full height as can be seen in photo 40. The brick walls have triangular piers set at regular intervals (approx. 12 feet or 3.7m). These piers are 500mm long on each triangular side. They carry the king post roof trusses above. The brickwork is in reasonable condition but there are some areas of damage and lots of areas where openings have been infilled with blockwork or damage repaired. There is no indication of any structural movement or issues. Photos 46 and 52 show areas of damage to the piers but this is not due to structural movement and can be repaired.

The roof structure can be seen in photos 41 to 43 with the bearing detail of the trusses illustrated in photo 47. The trusses, purlins and rafters appear to be original and are generally in good condition. There are some issues with the trusses including spread and water ingress as indicated on photos 41 & 42. The standard of workmanship and quality of timber used is very high. The roof has been felted and re-slatted over the years.

The barn has a concrete floor which is in reasonable condition. Photo 56 shows an excavation through the floor to expose the founding stones. These are located at a reasonable depth on a suitable bearing strata.

As noted above, a new block gable wall has been installed under the westernmost truss (photos 57 & 58). This is at the junction of the original barn and the extension to the north west which is thought to have replaced two more bays of the original barn.

## **Extended Section to the North West (Photos 59 to 64)**

The extension to the west forms a milking parlour (photo 59) plus an adjacent room (photo 61). The milking parlour has a loft above (photo 60). The extension is in good condition and free from movement.

## **6.0 Suitability for Conversion and Method of Construction**

It can be seen from the survey detailed above that despite its age, this barn is in very good condition with little or no sign of previous or ongoing movement. It is considered suitable for conversion to dwellings. The area of extensions to the north east elevation are not to be retained. If planning is granted, the layouts indicate that a section of Lancashire barn to the south west elevation is to be re-instated.

When converting barns, it is essential that the construction techniques and sequence are carefully considered. The main issue will be to provide insulation to the external walls of the original building. This would normally be provided internally by means of blockwork with an insulated cavity or by the use of structural insulated panels. As the barn is more interesting on the inside and rendered externally, it would be preferable to provide the insulation externally and there is no structural reason why this option should not be pursued.

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In providing a new external (or internal) skin, care must be taken as the existing walls may be founded at a shallow depth. Trial holes should be dug to ascertain the actual depth. A number of trial holes have been excavated on site and these indicate that the walls are founded at a reasonable depth. These precautions will apply when constructing the replacement extensions which will abut the original brick barn.

Ground floor levels should be set as high as is possible and we would recommend the use of a reinforced concrete floor slab with thickenings under new internal walls. The thickening can be taken down to a similar depth as the existing walls. We would recommend a minimum depth of 400mm for the thickenings. Levels lower than the existing foundations should be avoided and if this is necessary an Engineer should be consulted as underpinning may be required.

The new internal walls should be tied to the existing wall with suitable cavity and/or specialist ties. The sketch layouts indicate the location of new internal walls, and it should be possible to ensure that the first floor loads are taken up by these walls rather than the existing external walls. The client has suggested that a steel frame may be more appropriate to carry the new first floor and this could be tied into the existing walls and triangular pillars to provide stability. The use of a steel frames would be acceptable in terms of protecting the original structure.

It is recommended that the new insulated skin and the extension structures are in place and the ground and first floor are put in place prior to any major work on the roof. This will add stability to the existing walls and help prevent any movement if sections of the roof are temporarily removed.

The architectural layout makes use of existing openings and introduces a minimal number of new openings. Given the good condition of the structure and the addition of the new sections, this will not cause any structural issues.

The existing trusses and purlins appear to be in good condition with little sign of rot or infestation. There are some areas that need assessment and repair as noted above but the structure appears adequate for the loadings anticipated. All the timber retained should be assessed by a timber specialist, with regard to rot and infestation. All retained timber should be treated against rot/infestation and an indication of residual section given for structural purposes. All retained timber to be used structurally should be checked for structural adequacy.

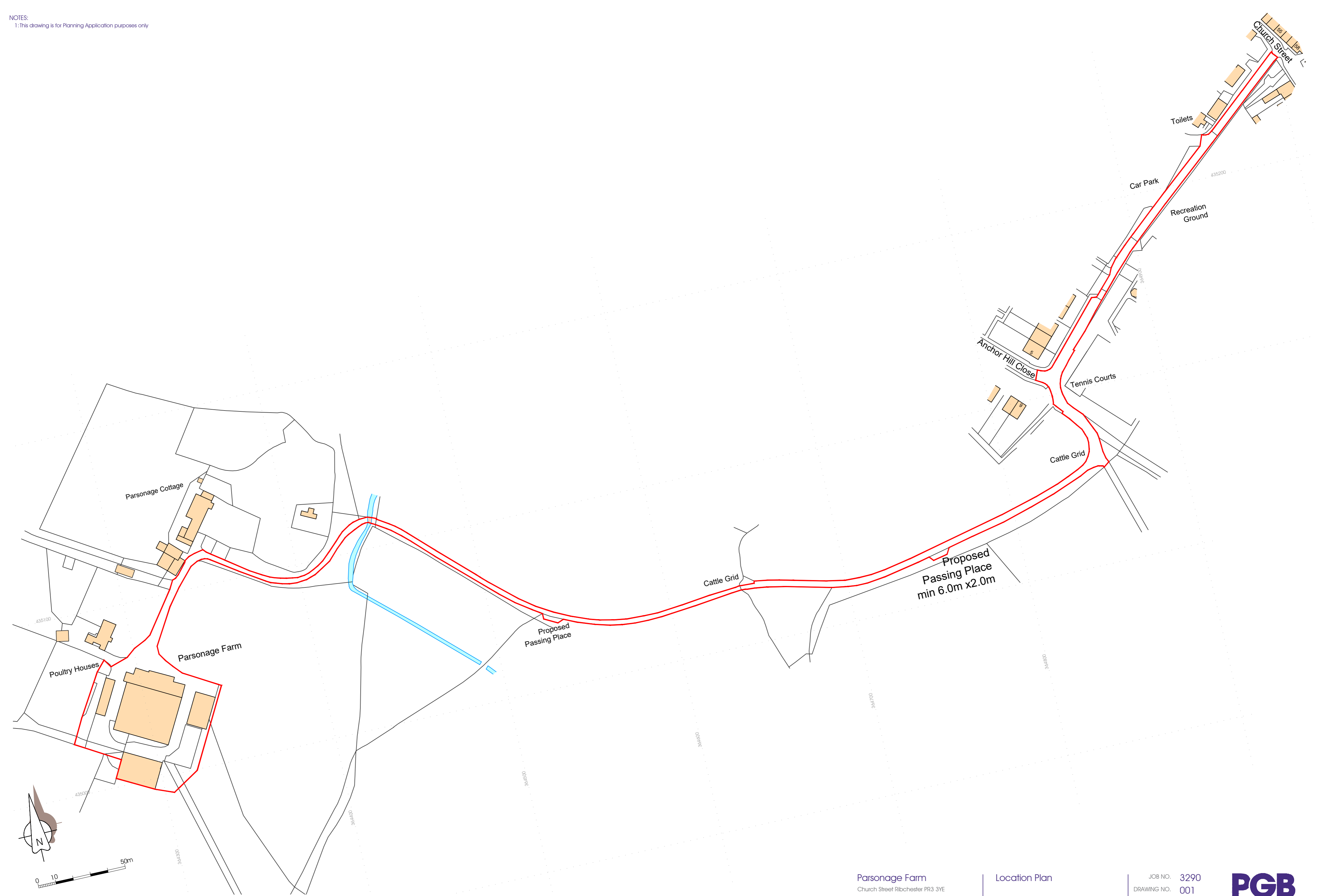
## **7.0 Conclusions**

The barn is in a good structural condition and is considered suitable for conversion. The construction should follow the guidance set out above and a structural engineer should be consulted with regard to the final layout for Building Regulation compliance.

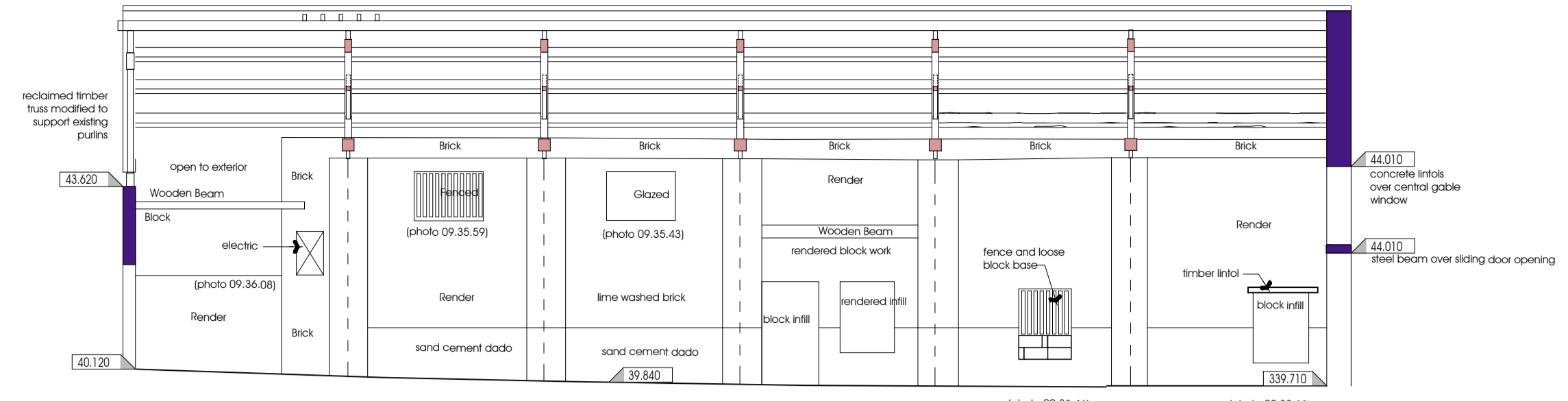
Mr and Mrs A&J Wright  
Structural Condition Survey  
Parsonage Farm, Ribchester

Appendix A  
Drawings

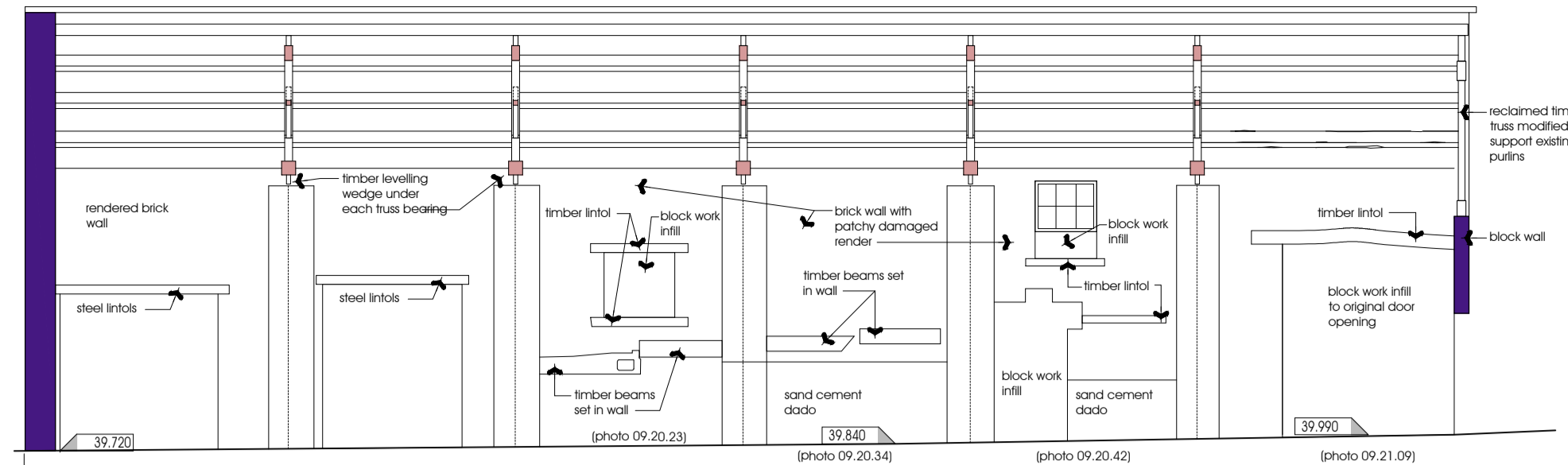
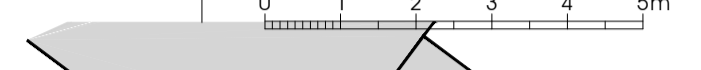
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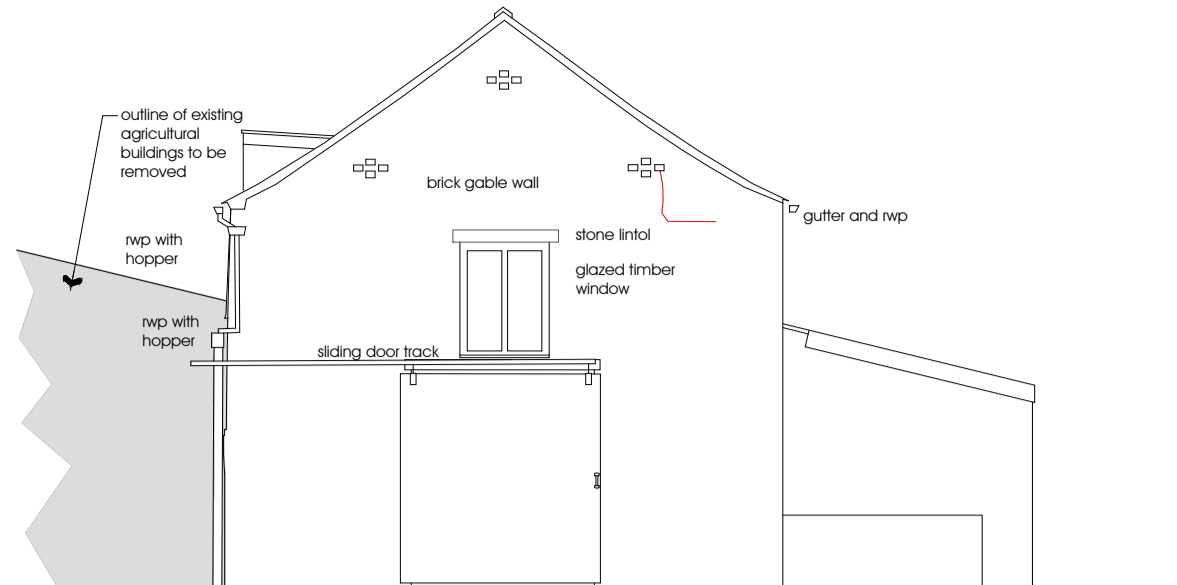
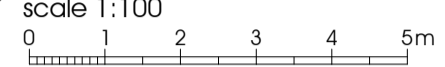
Original survey information produced by:  
The Survey House Ltd  
3 Well House Barns  
Chester Road  
Chester  
CH4 0DH  
Tel: 01244 955 599  
Email office@thesurveyhouse.co.uk  
www.thesurveyhouse.co.uk



Internal elevation of North East wall  
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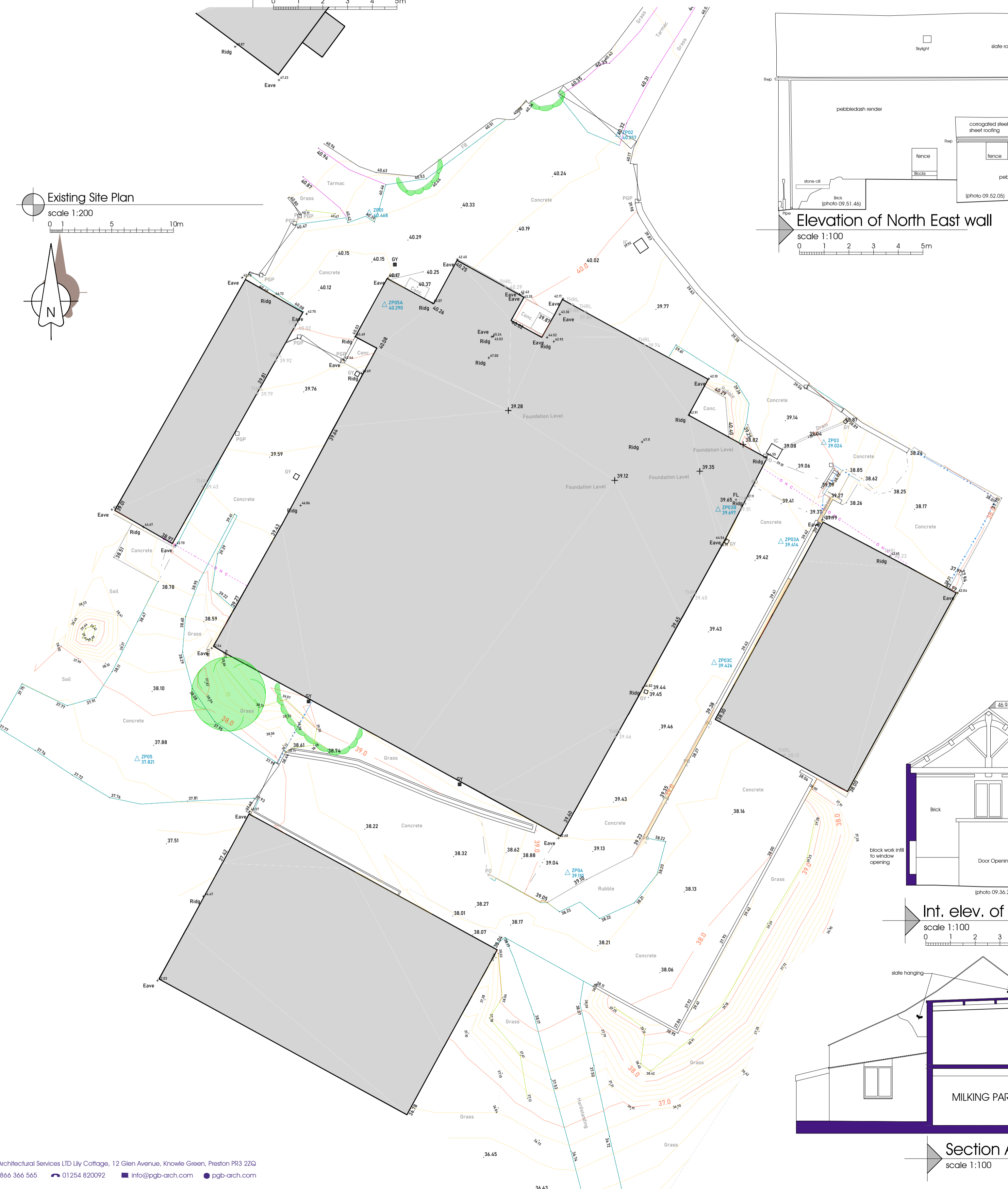
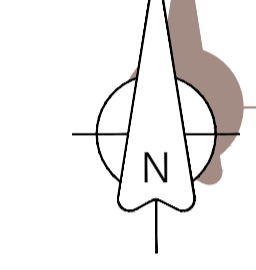
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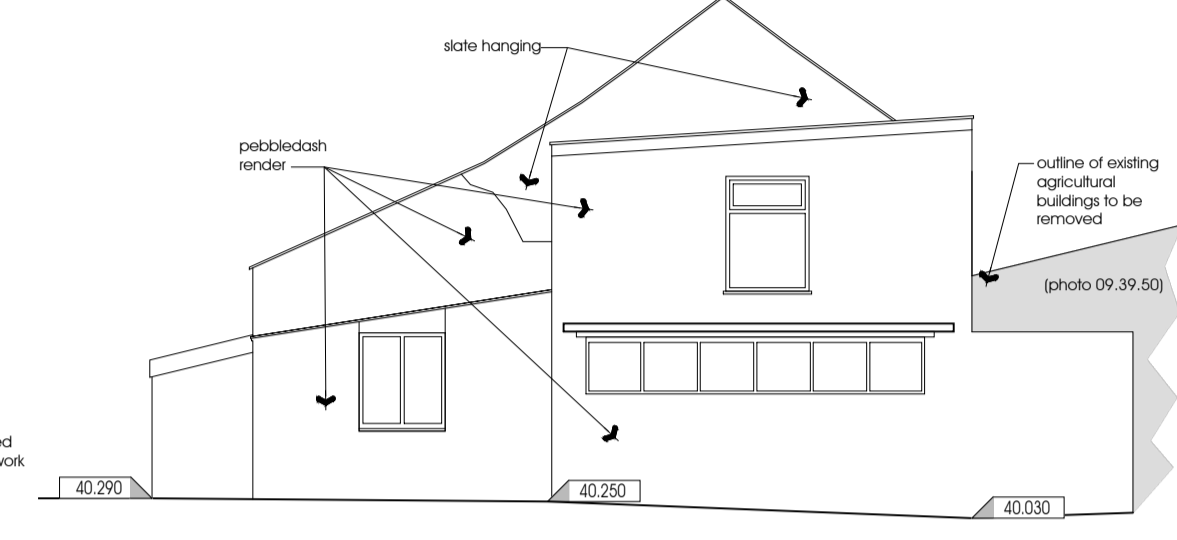
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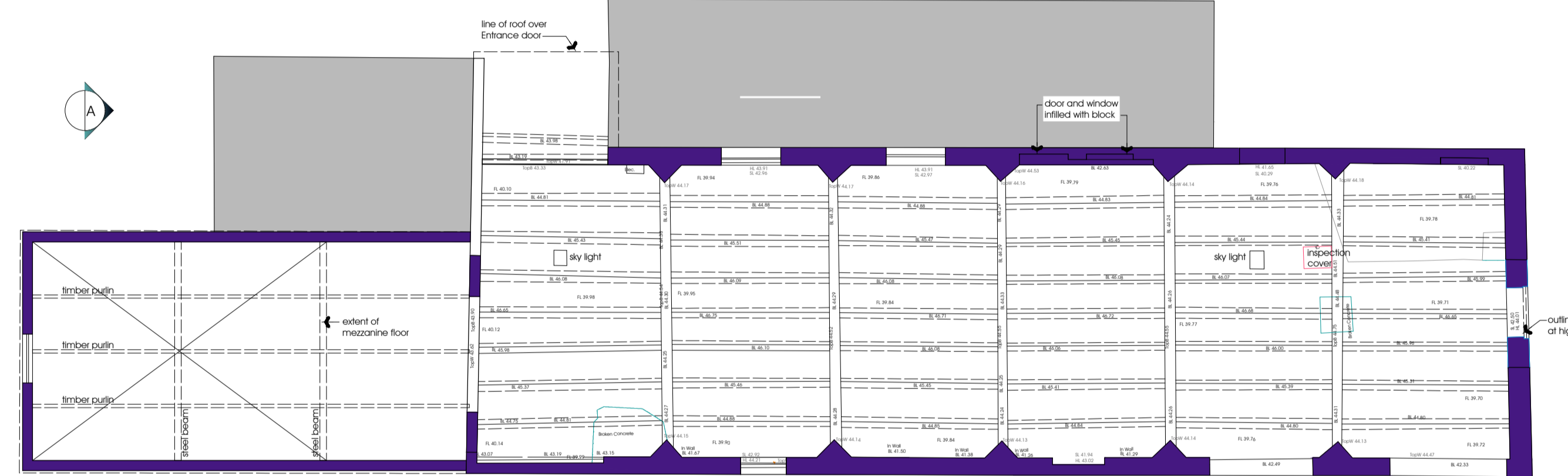
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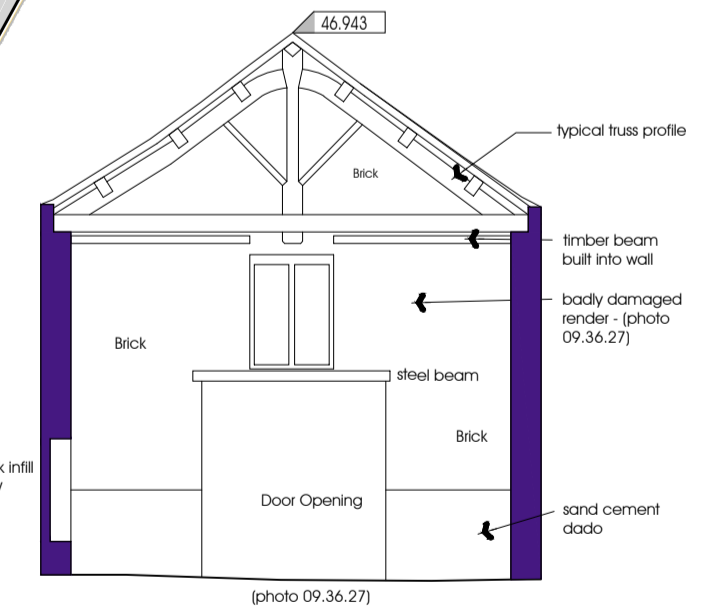
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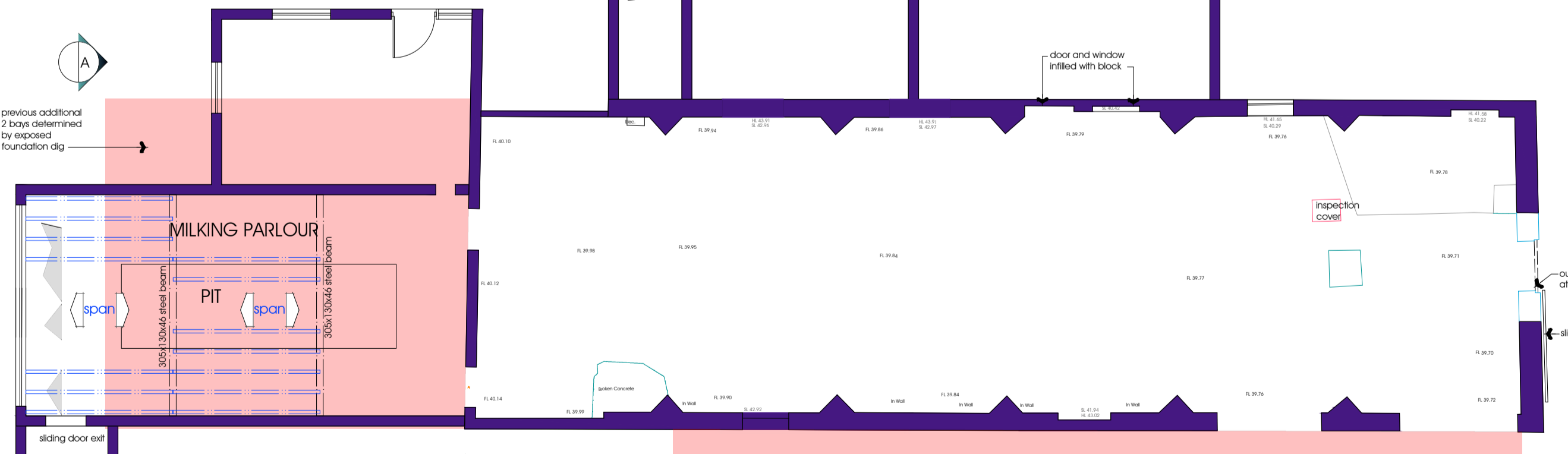
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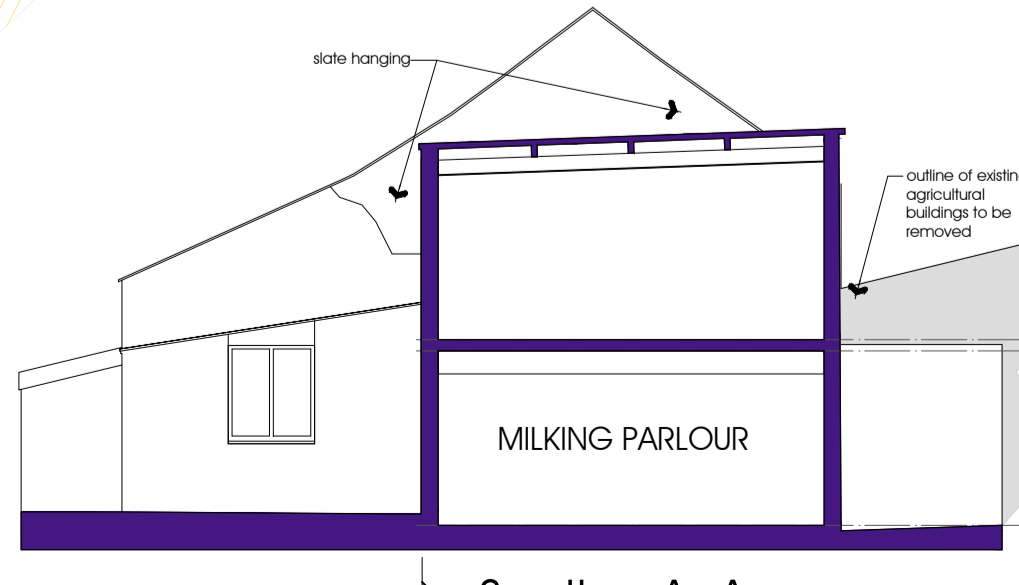
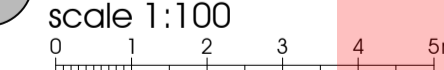
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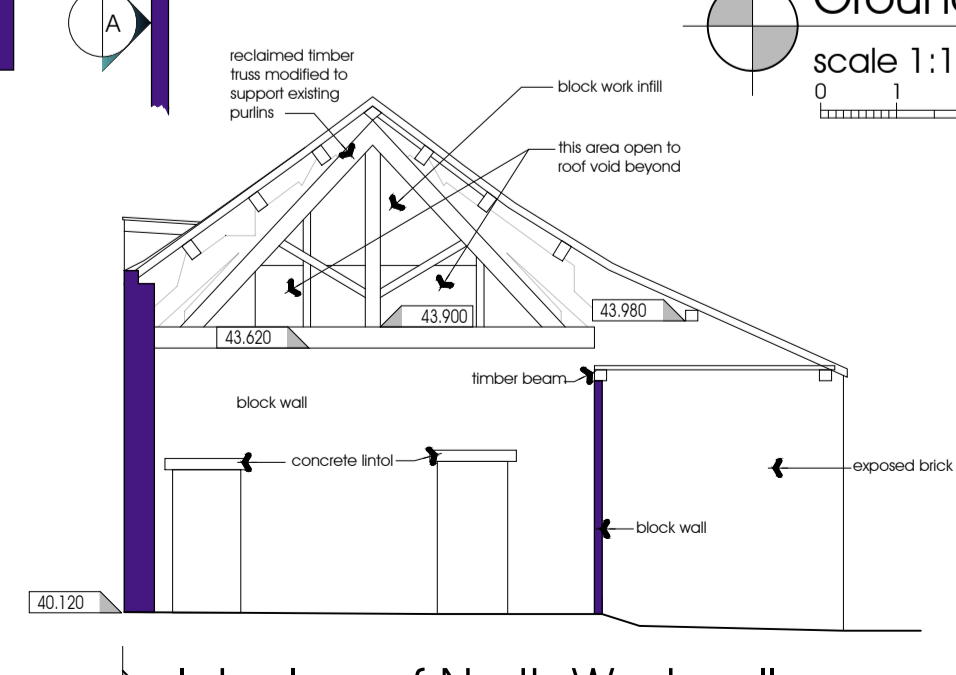
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Ground Floor Plan  
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Section A..A  
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Int. elev. of North West wall  
scale 1:100



Rev B: 31.05.2023: Additional information added  
Rev A: 14.04.2023: Additional information added to Milking Parlour; Section A..A added  
Parsonage Farm  
Church Street Ribchester PR3 3YE  
Mr & Mrs A & J Wright  
2 Lower Barn Cottages Ribchester PR3 3XS  
DATE: 15.04.2022

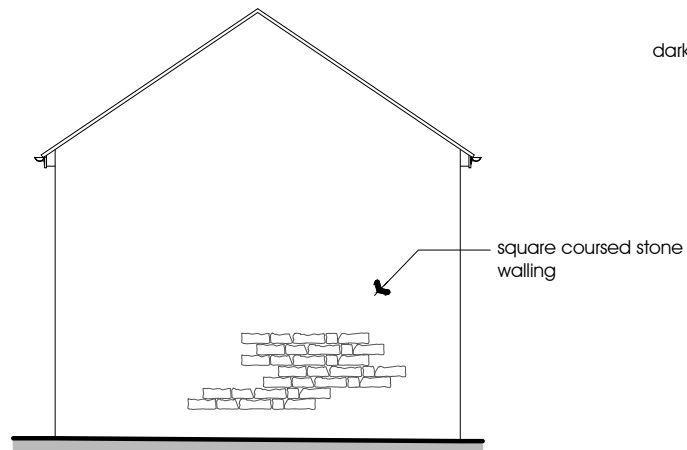
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Plan and Elevations

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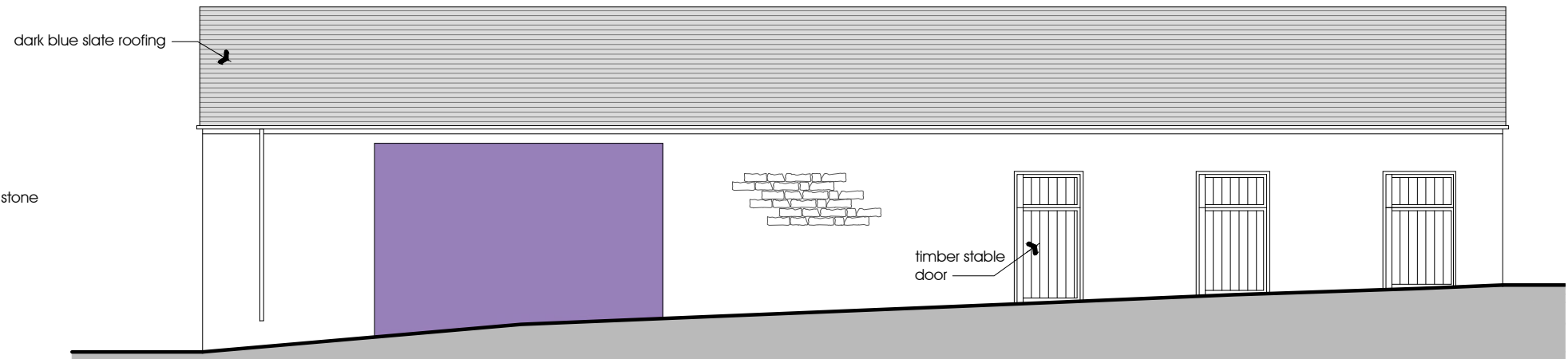


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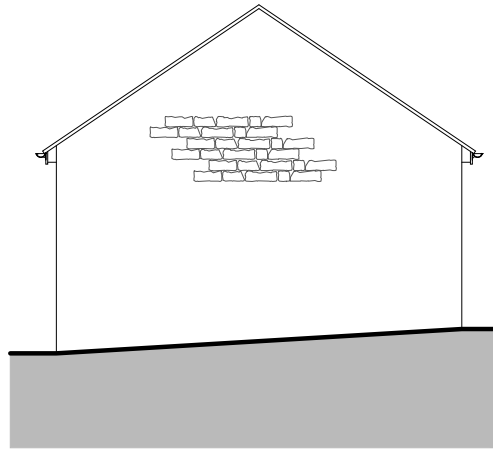
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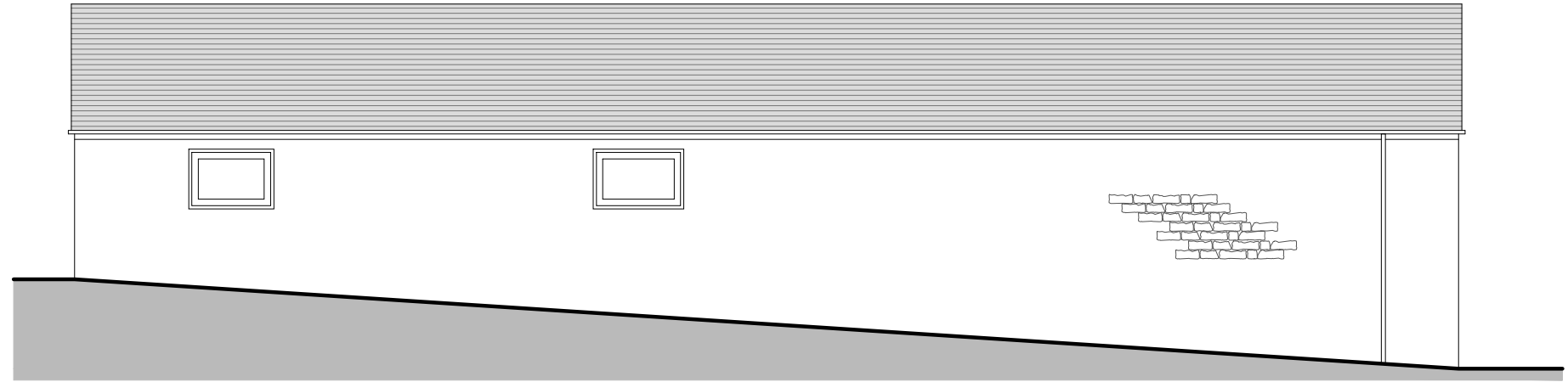
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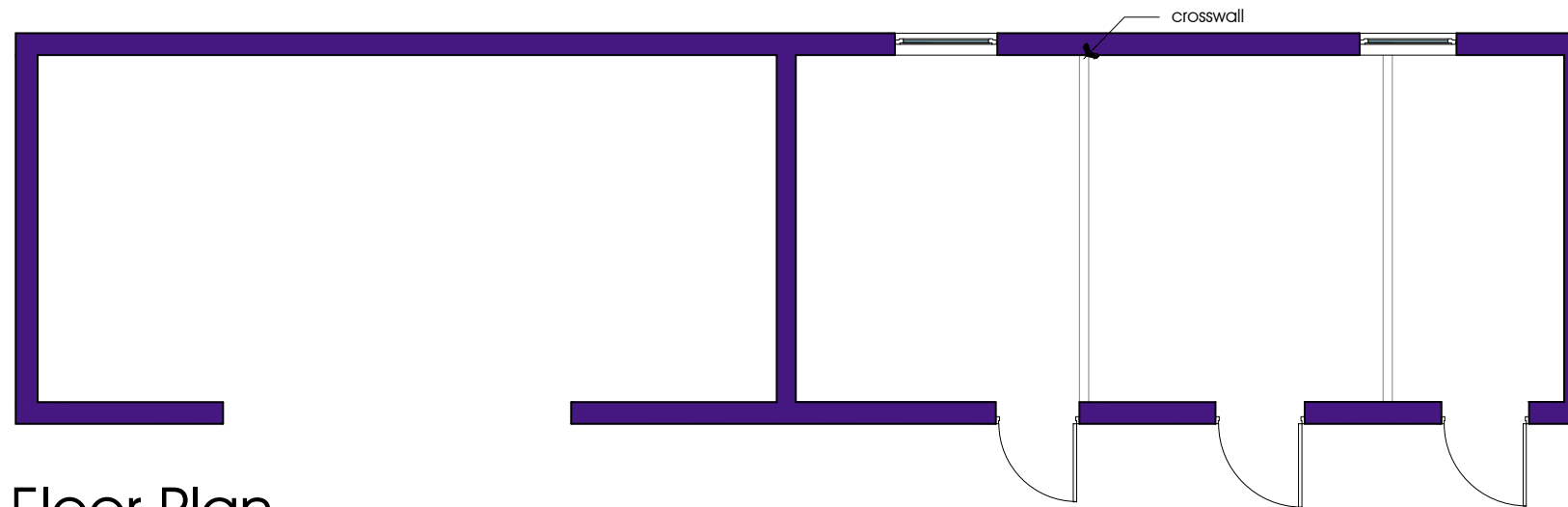
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Elevation North East  
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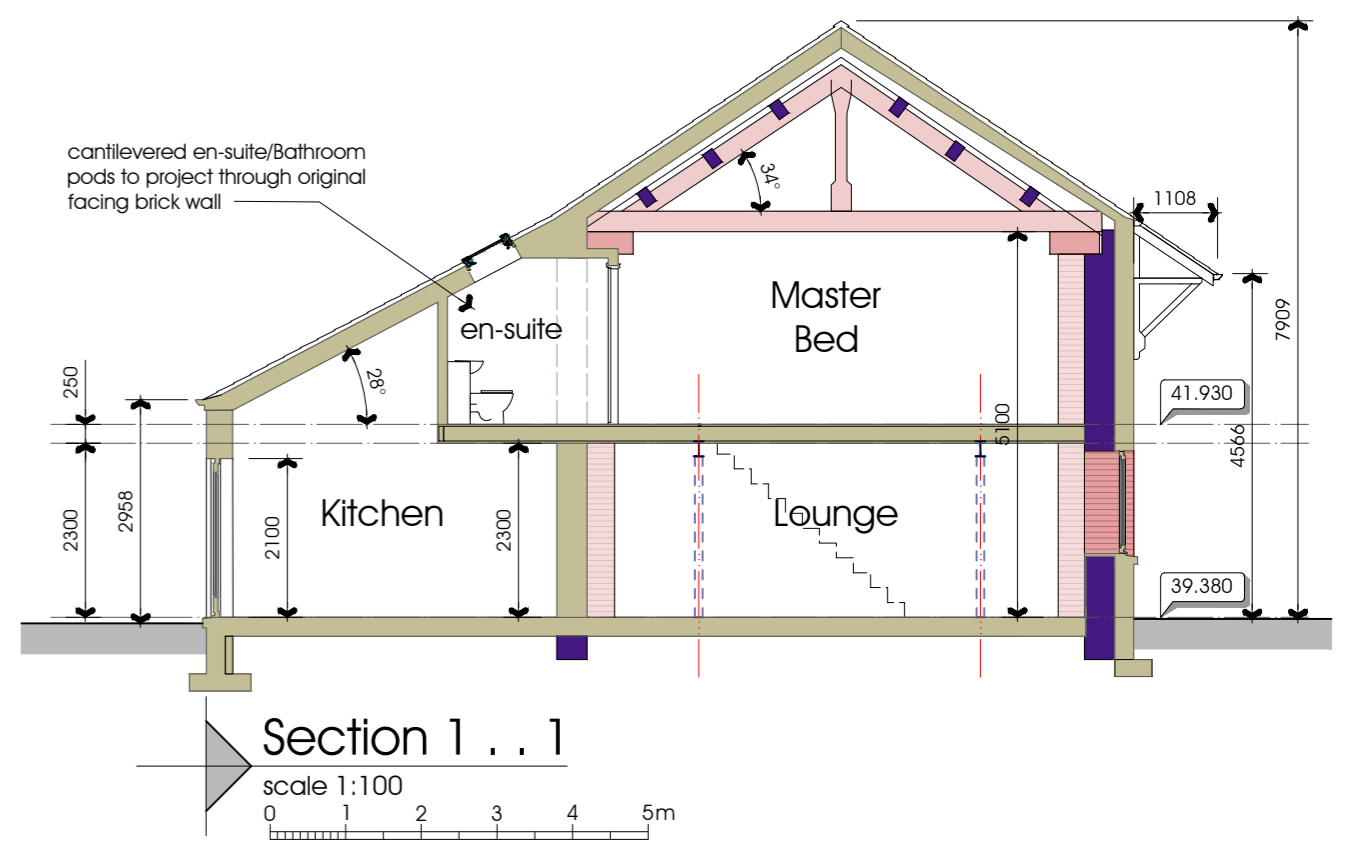
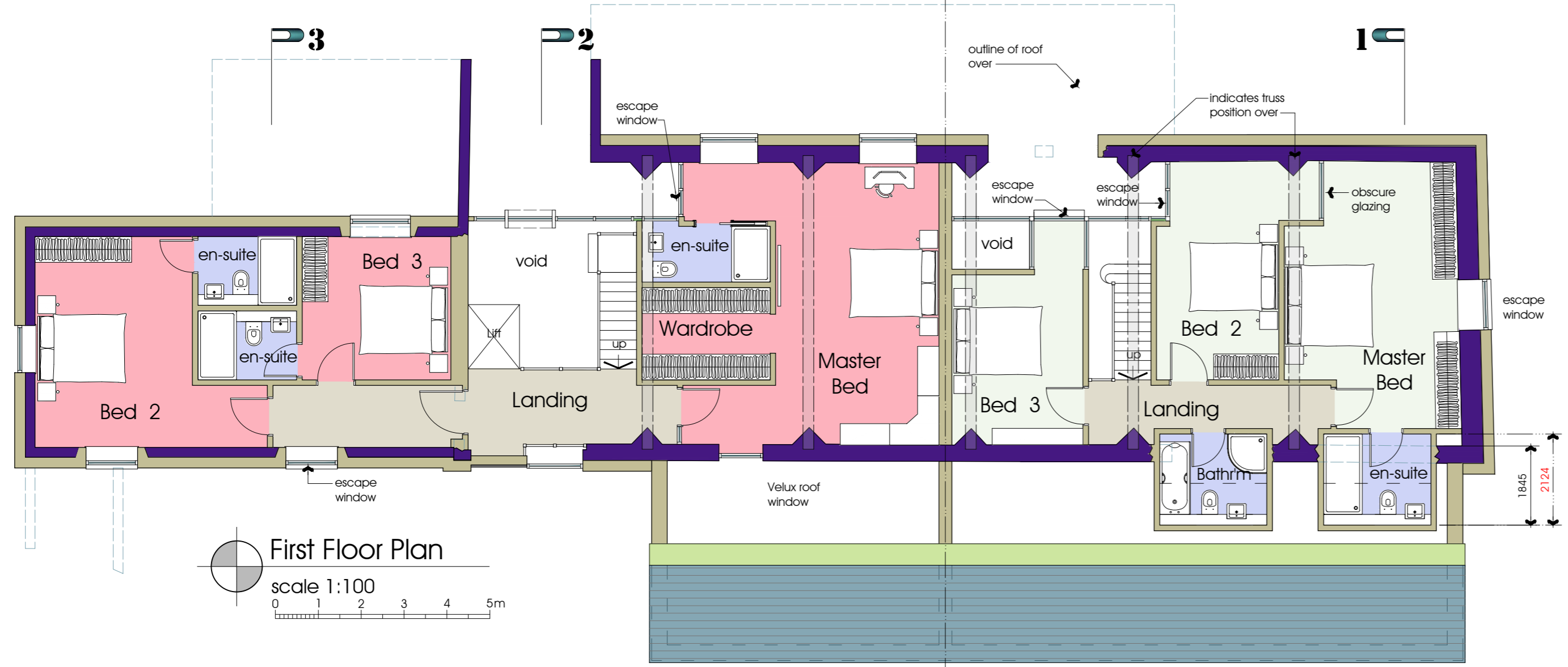
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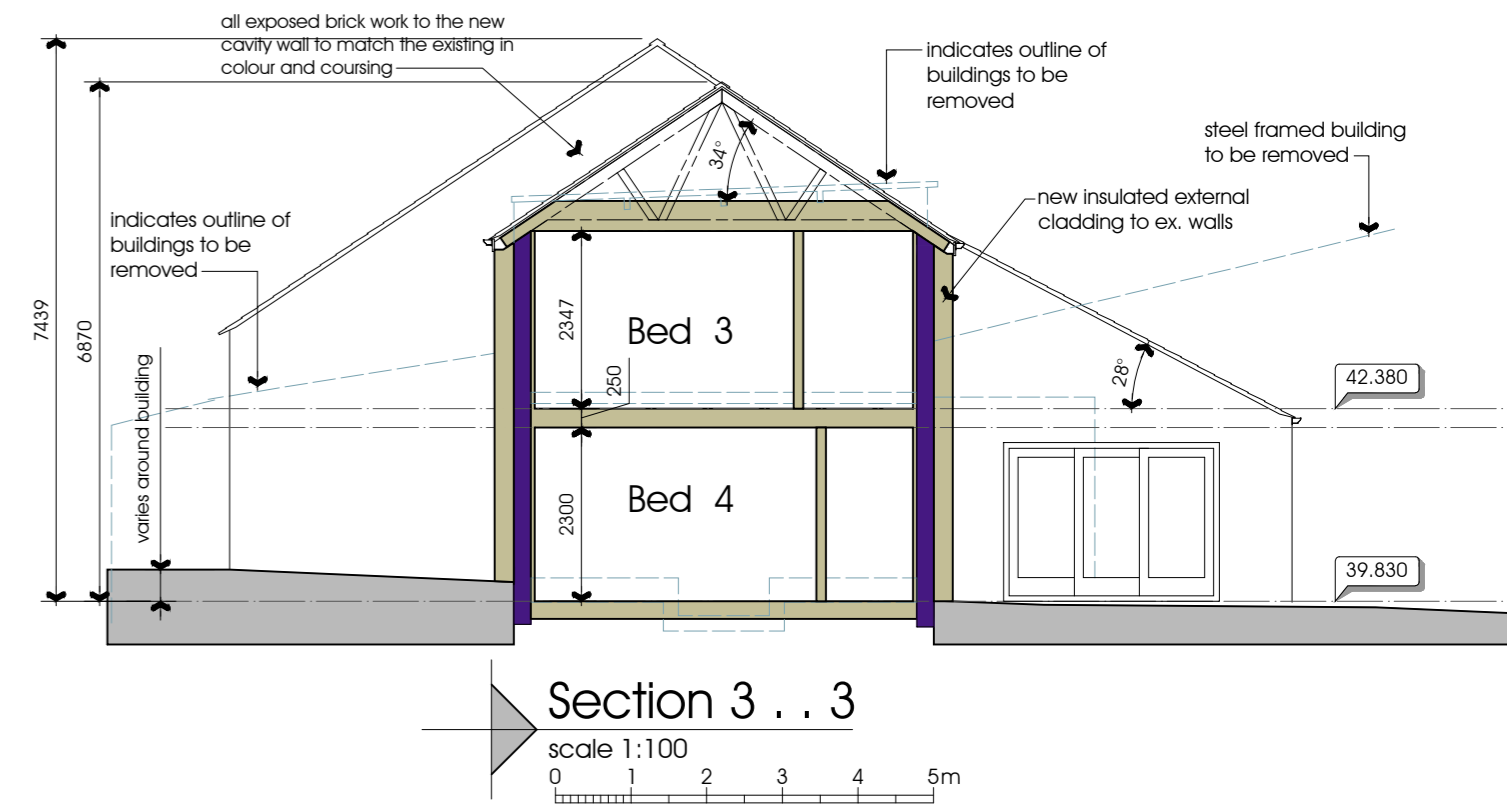
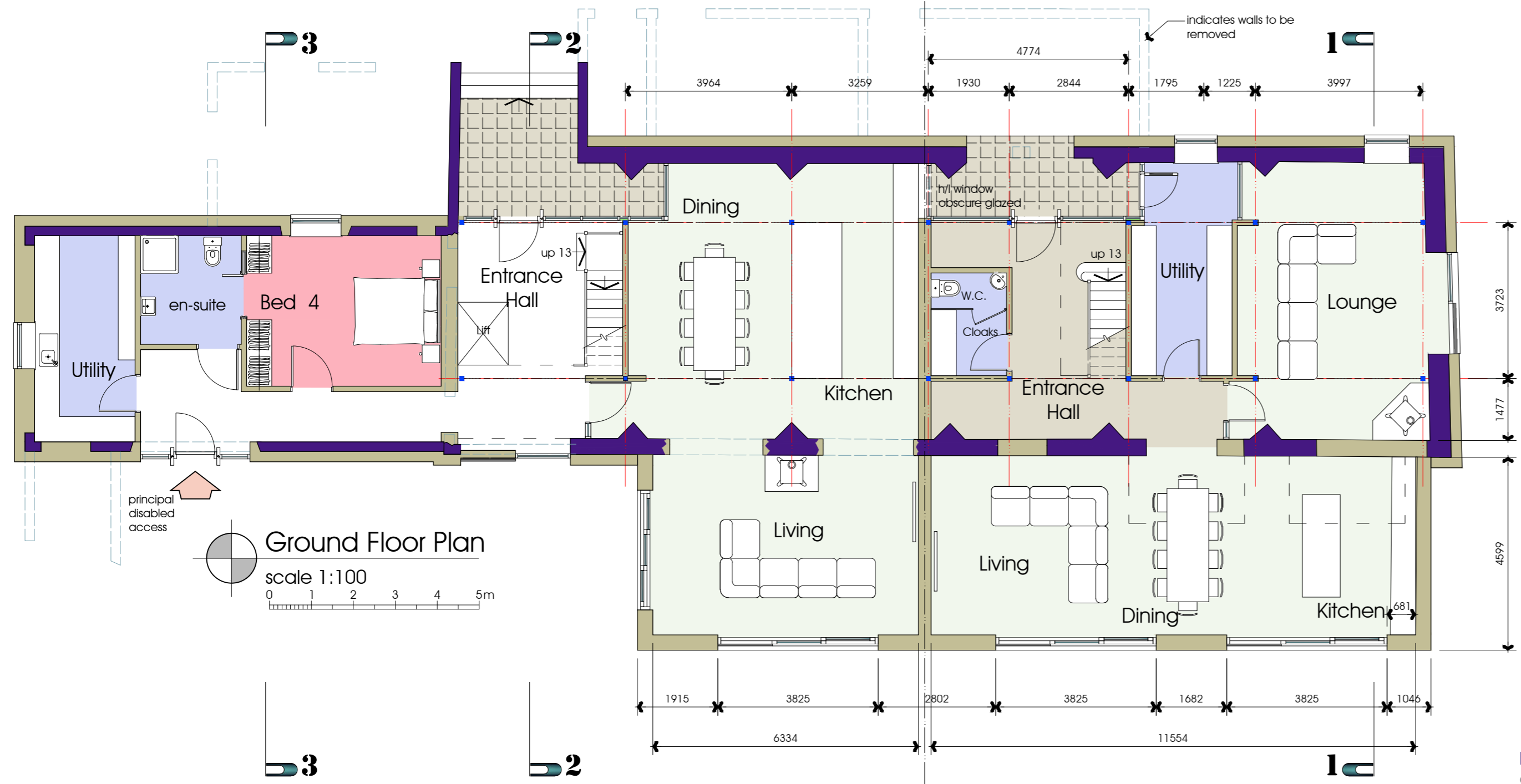
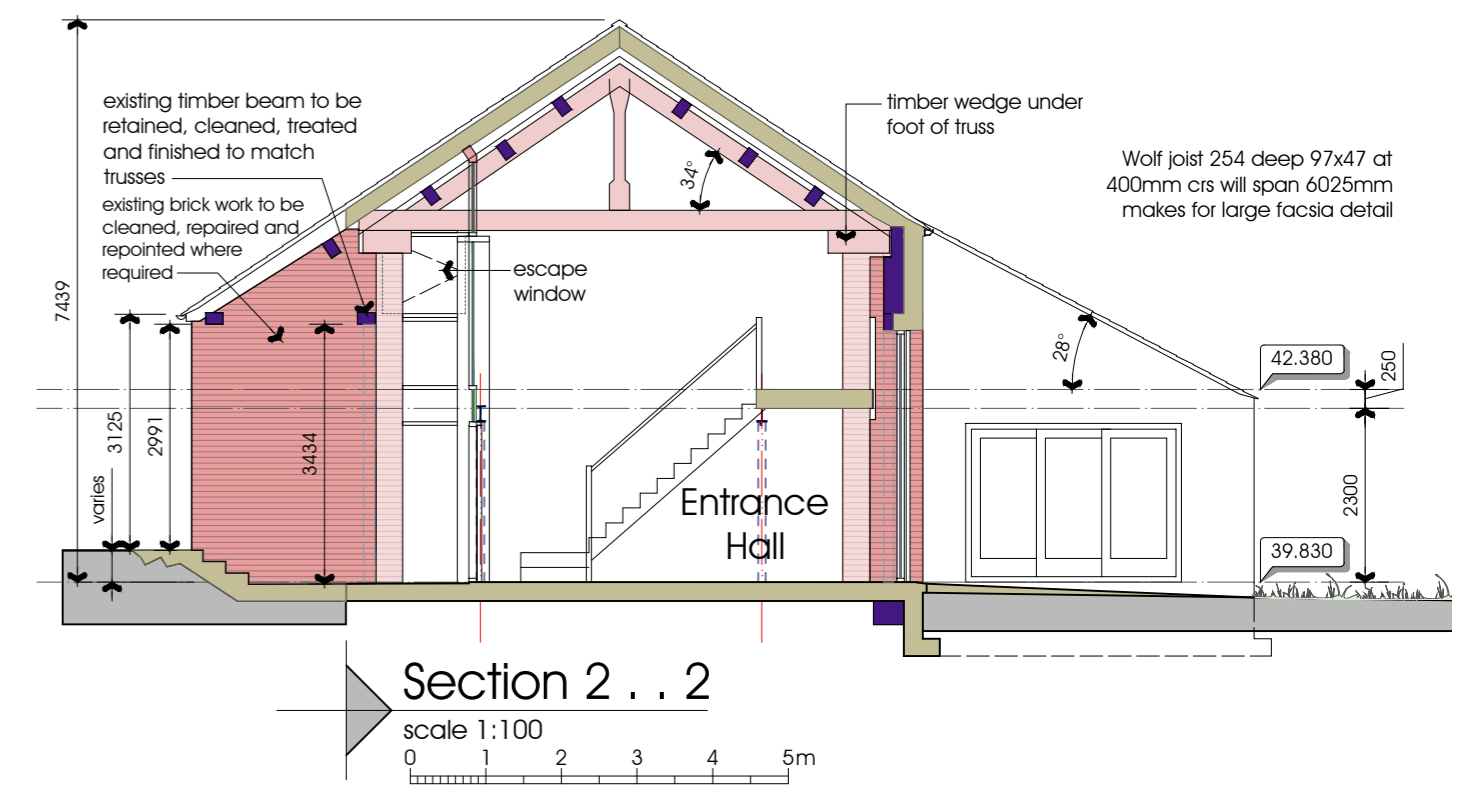
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NOTES:  
1: This drawing is for Planning Application purposes only



**UNIT 2** X **UNIT 1**



Parsonage Farm  
Church Street Ribchester, PR3 3YE  
Mr and Mrs A & J Wright  
2 Lower Barn Cottages Ribchester PR3 3XS

Proposed Plans and Sections  
DATE 10.05.2023

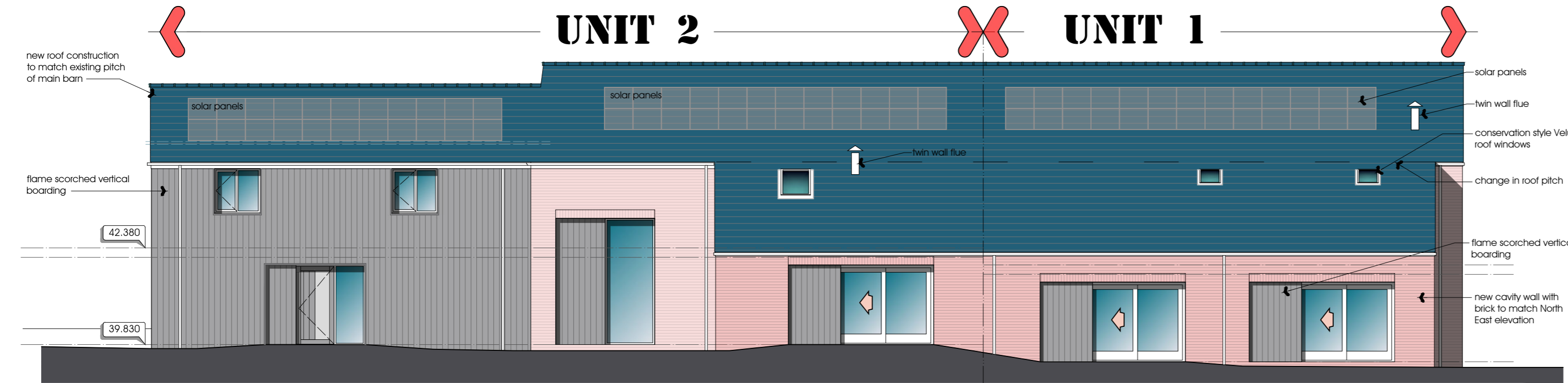
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**PGB**  
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SERVICES™

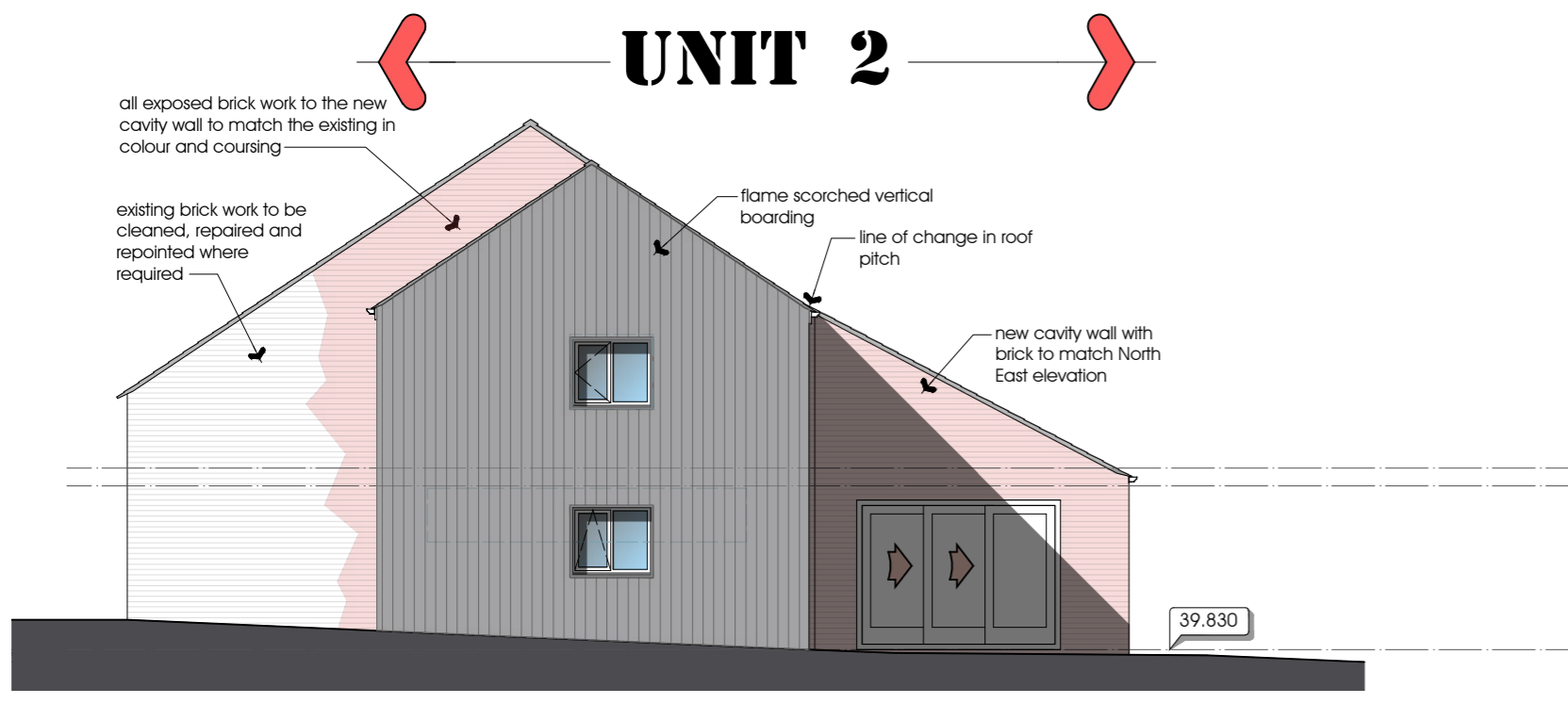
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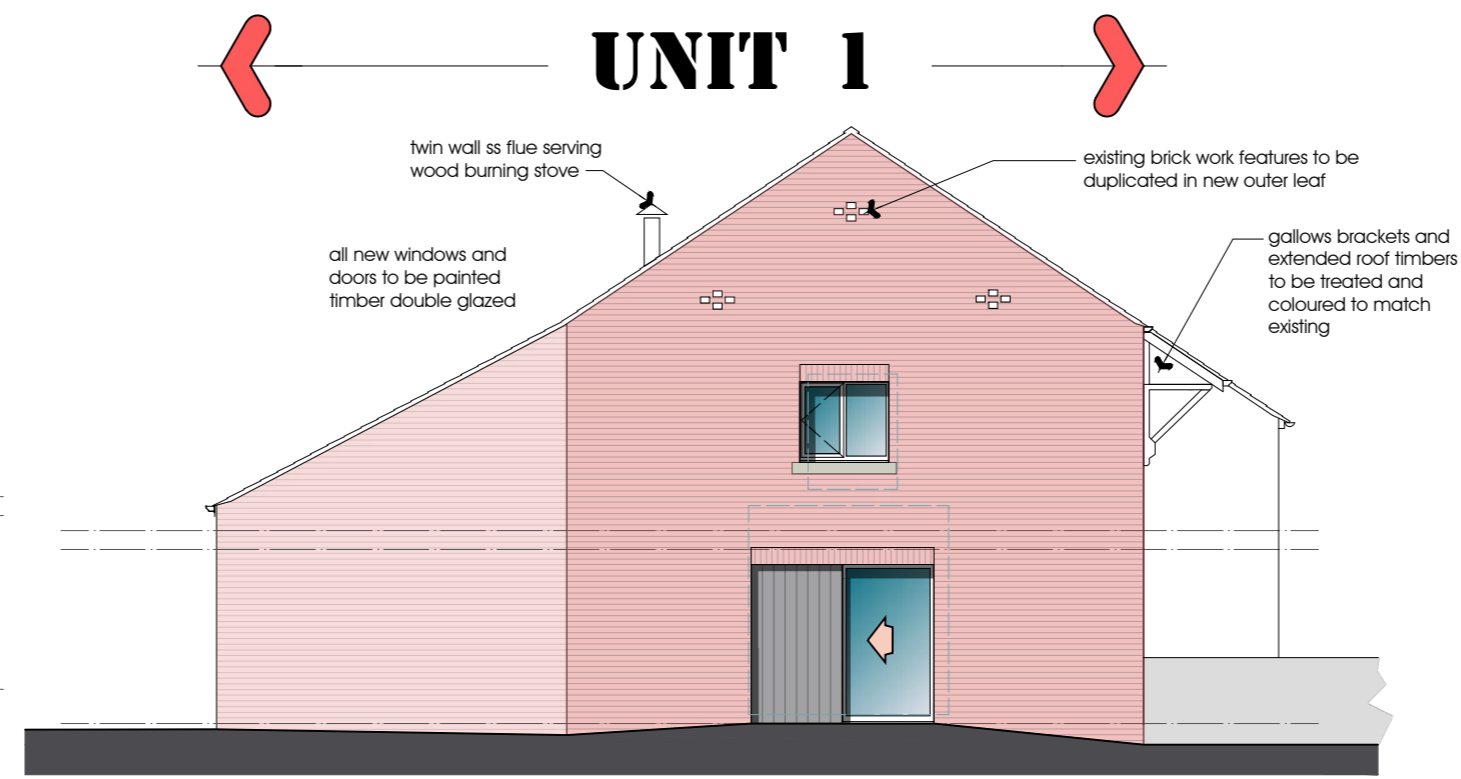
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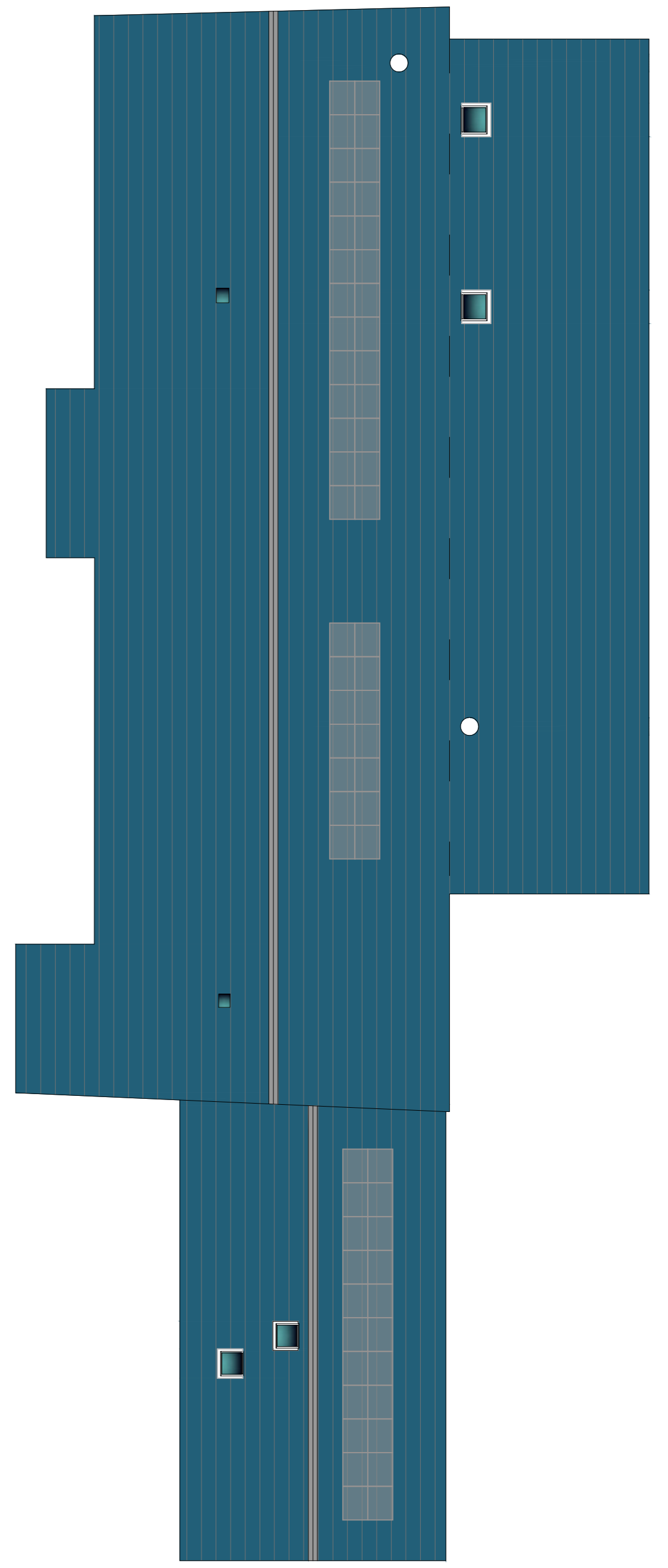
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**ELEVATION NORTH WEST**  
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**ELEVATION SOUTH EAST**  
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**Roof Plan**  
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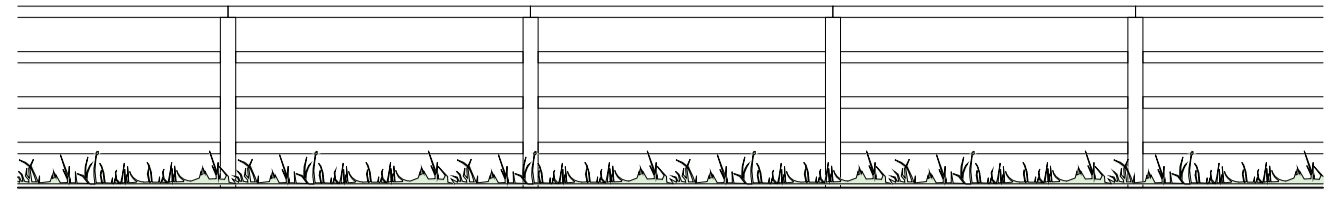
Parsonage Farm  
Church Street Ribchester, PR3 3YE  
Mr and Mrs A & J Wright  
2 Lower Barn Cottages Ribchester PR3 3X5

Proposed Elevations and  
Roof Plan  
DATE 10.05.2023

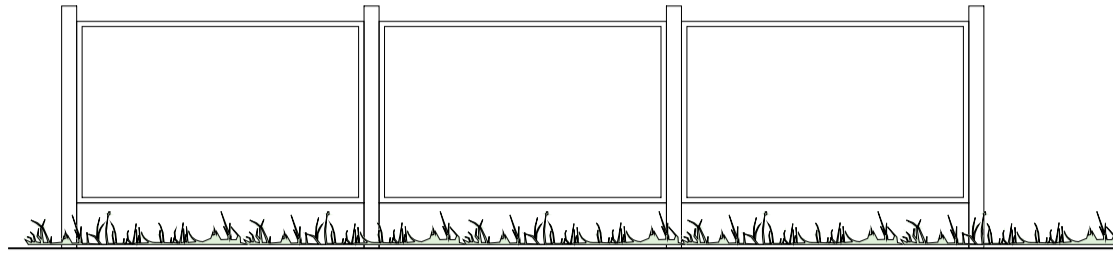
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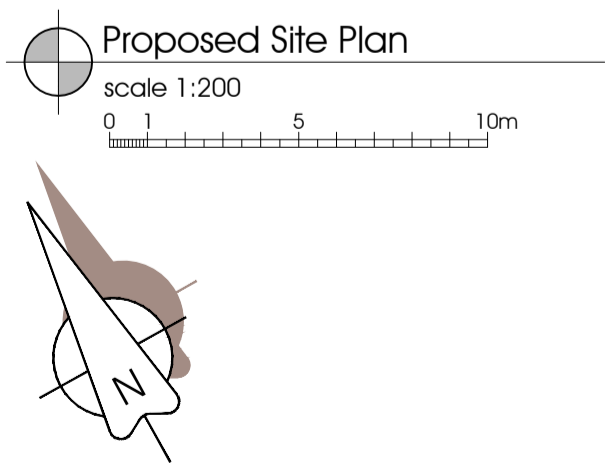
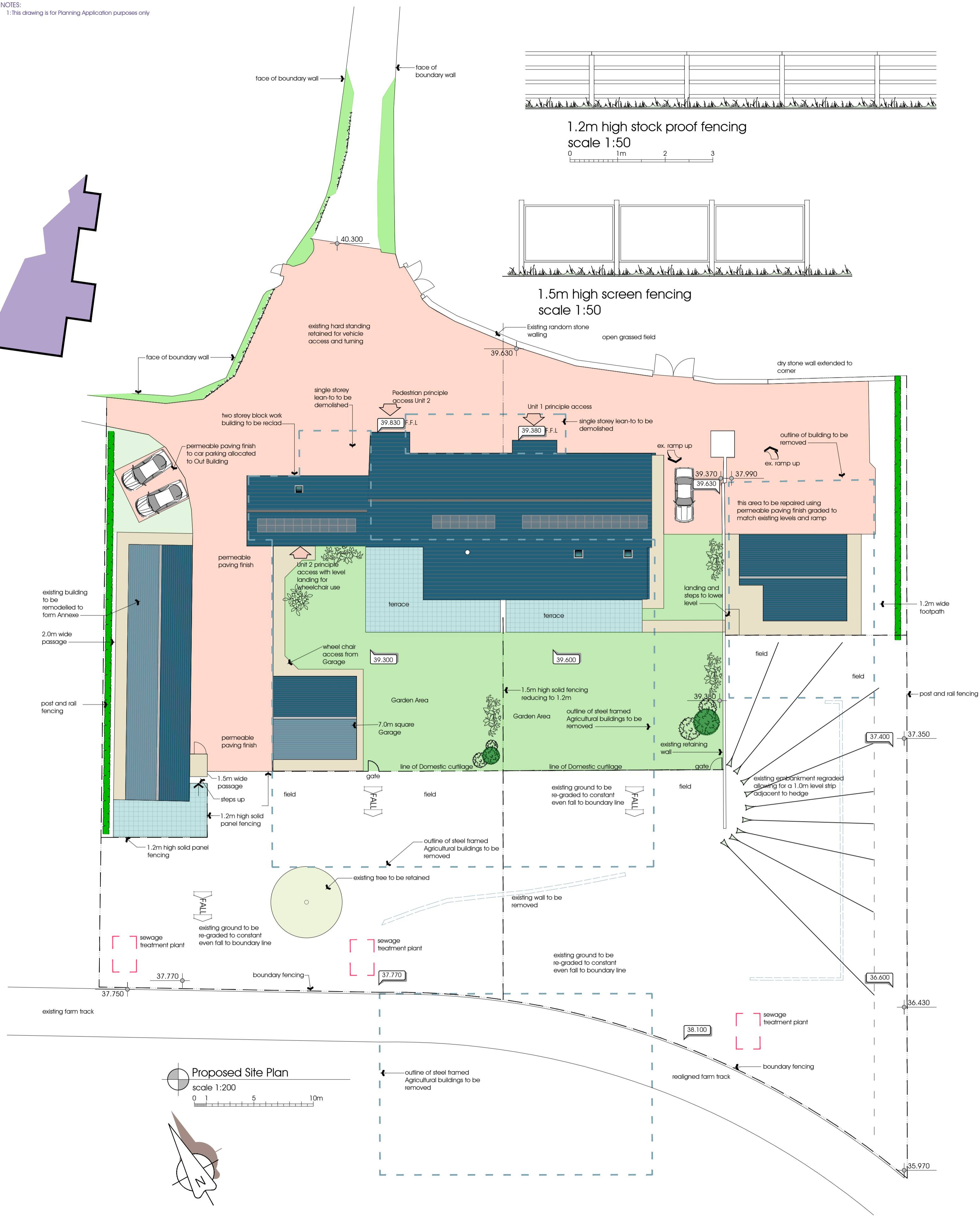
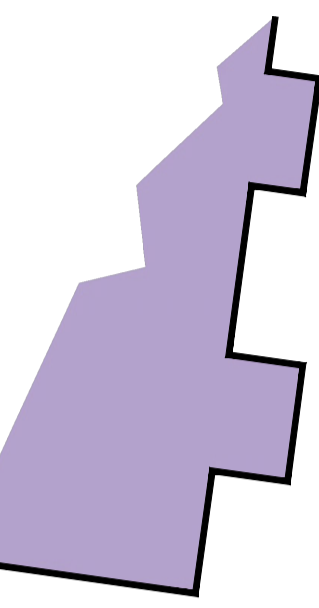
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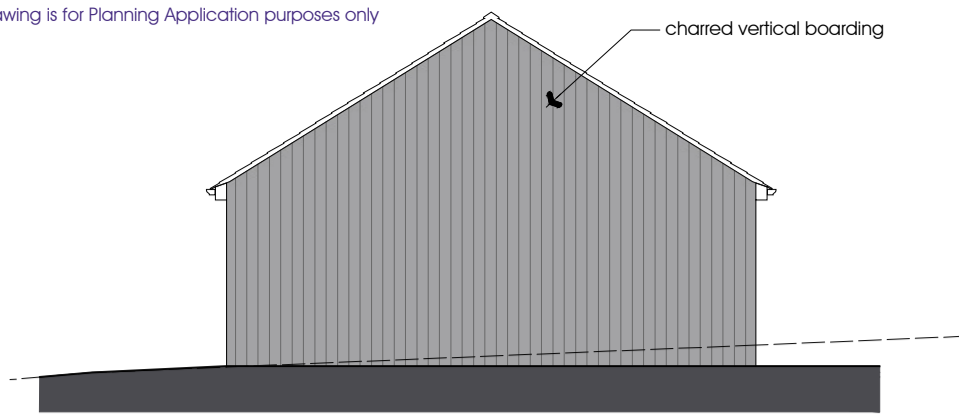


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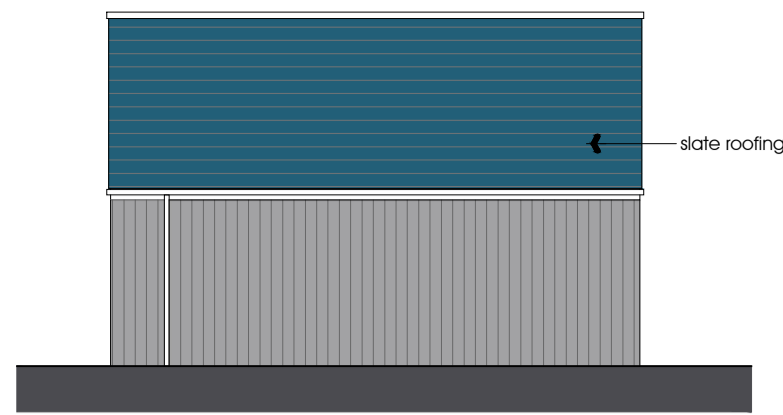


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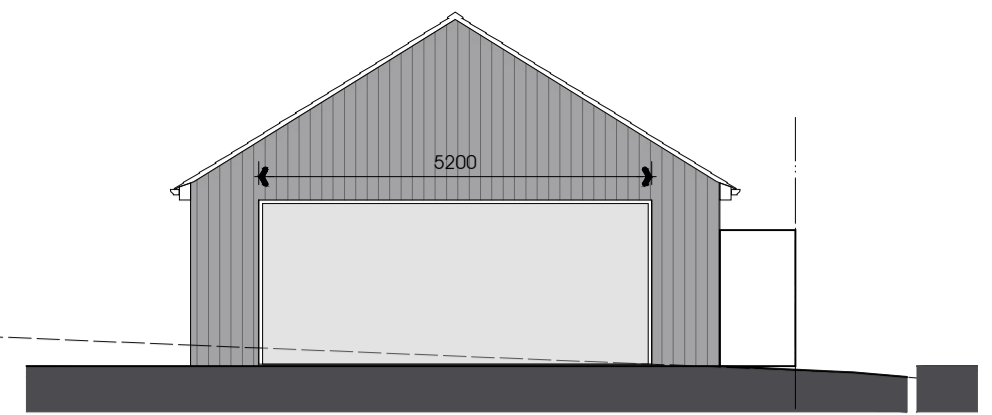




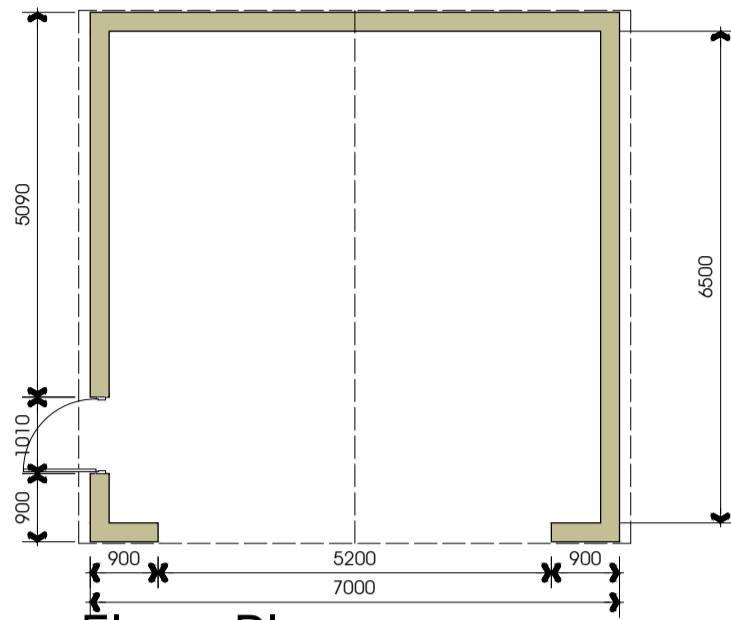
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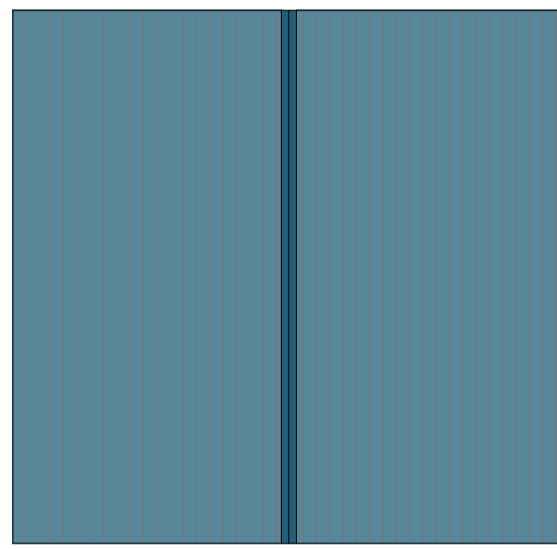
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Elevation North West  
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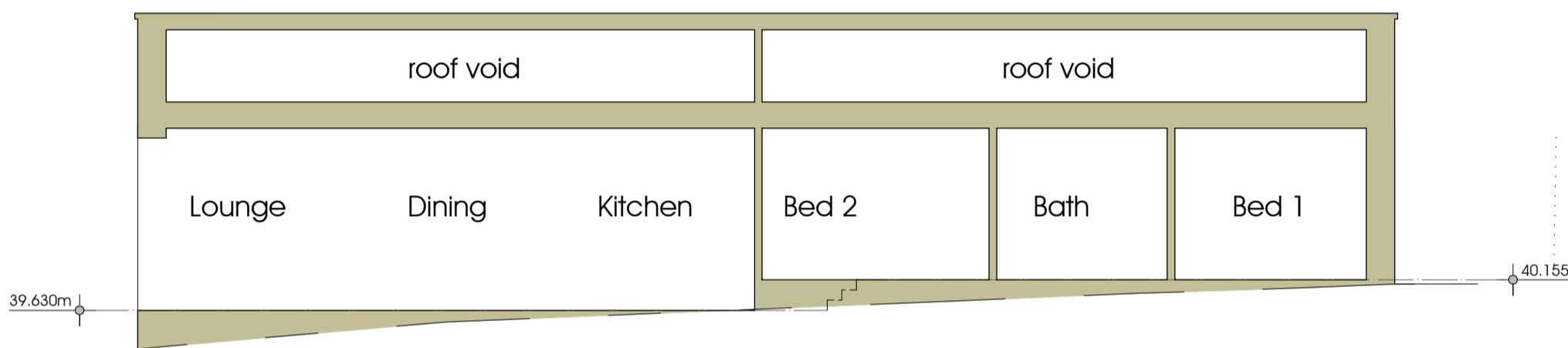
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Garage to Unit 2



Roof Plan  
scale 1:100



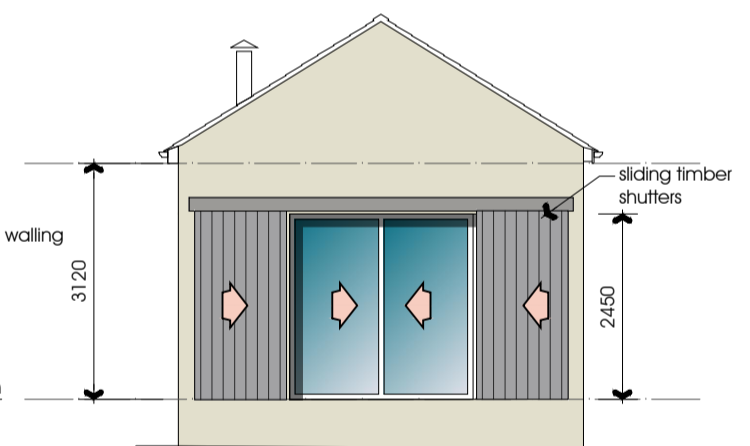
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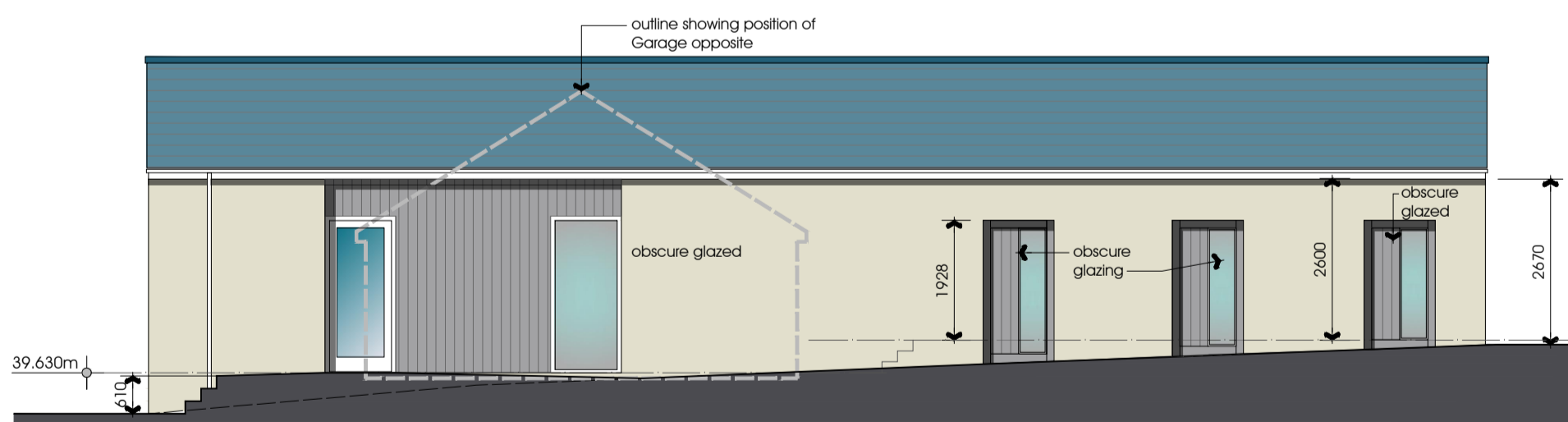
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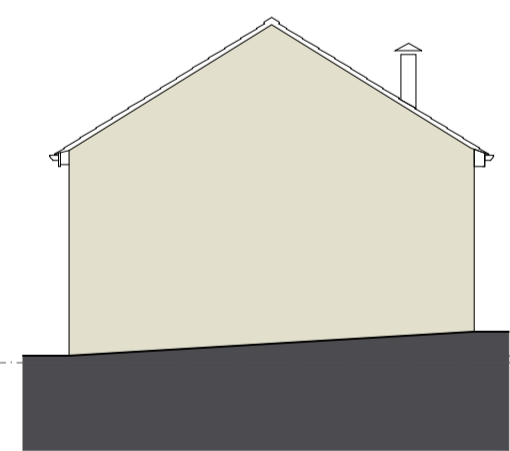
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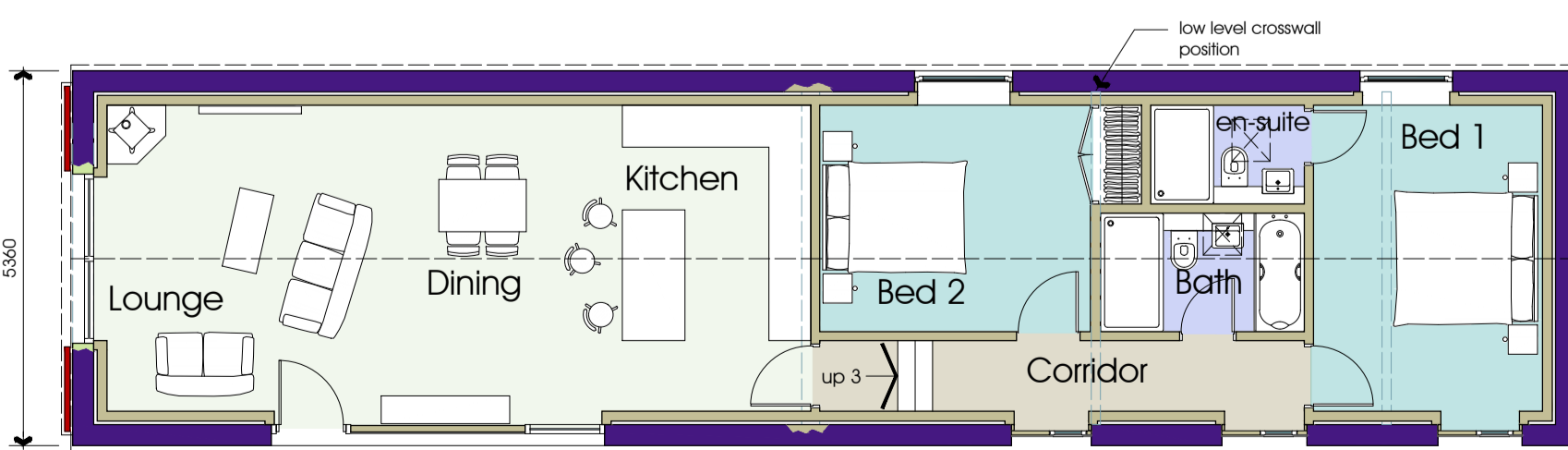
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Elevation South East  
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Elevation North East  
scale 1:100

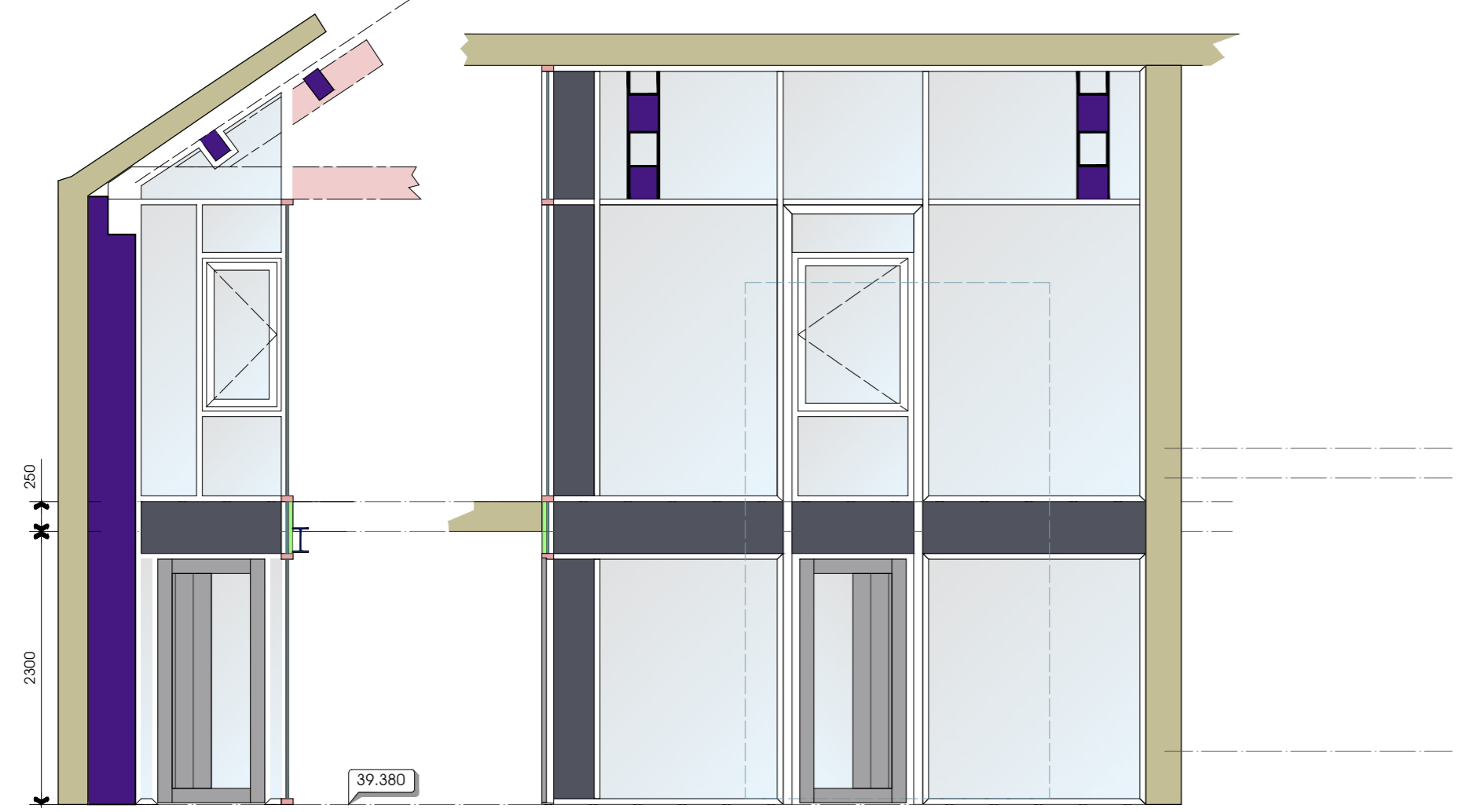


Out Building Floor Plan  
scale 1:100  
0 1 2 3 4 5m



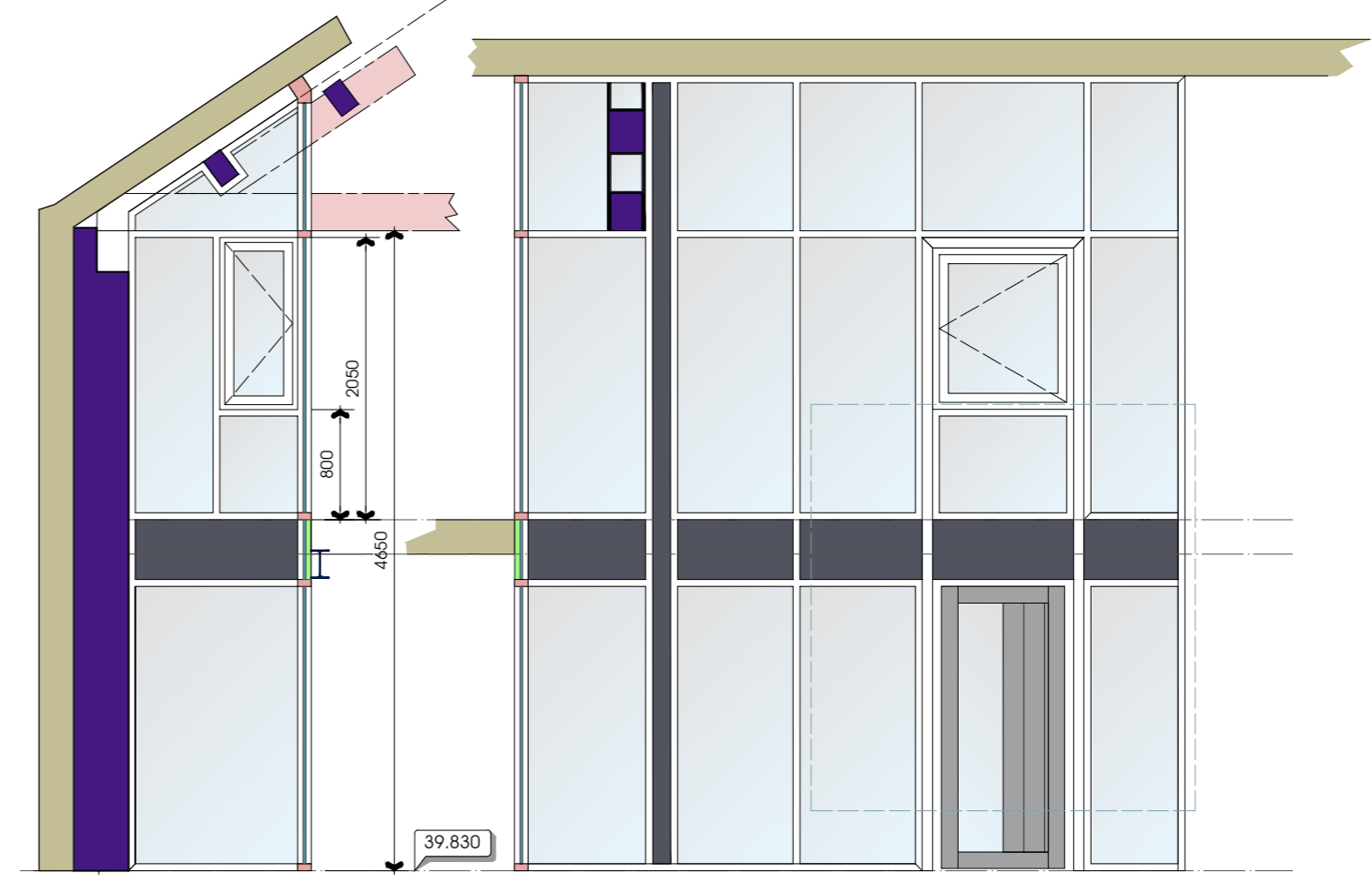
Roof Plan  
scale 1:200  
0 1 5 10m

NOTES:  
1: This drawing is for Planning Application purposes only



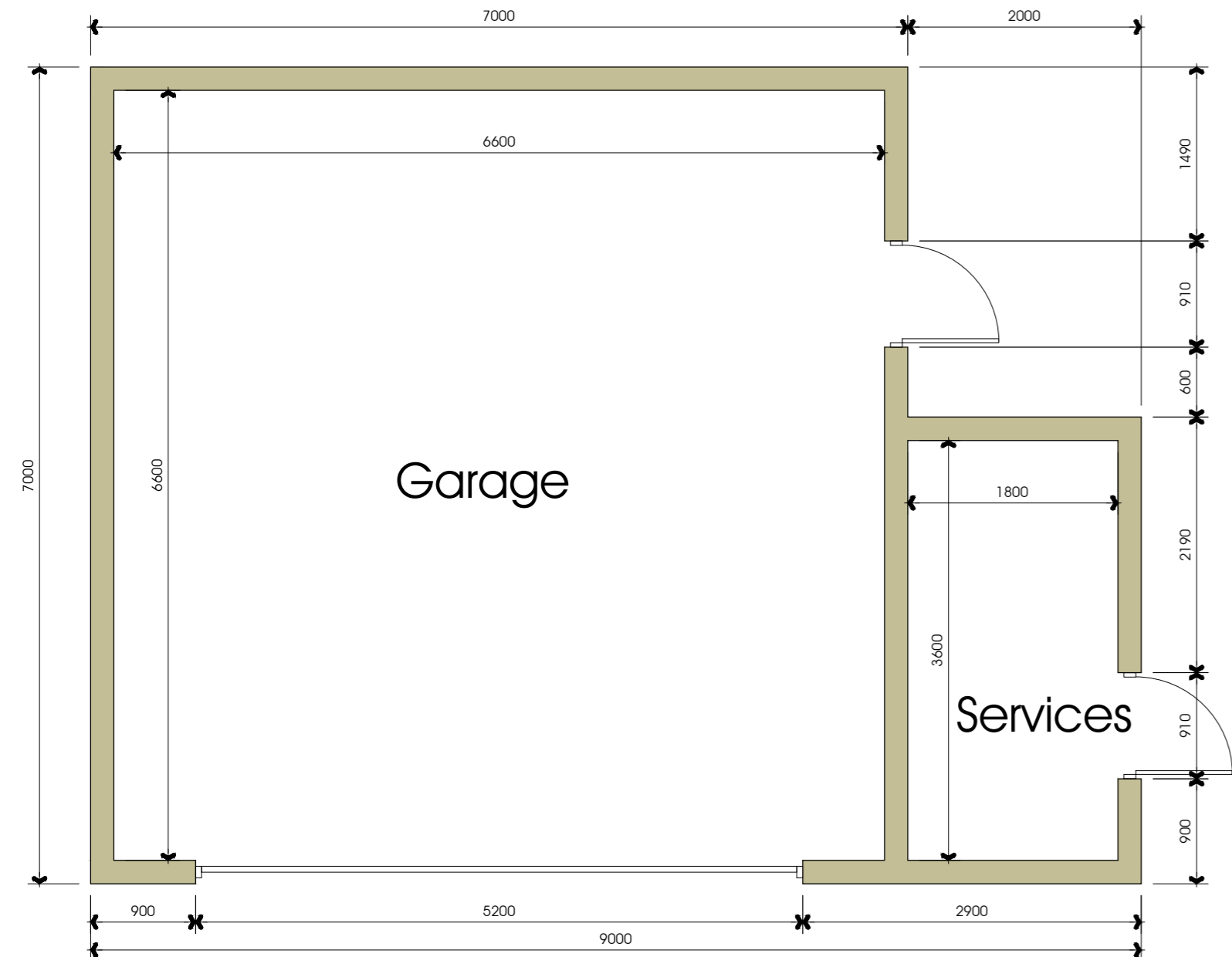
Entrance Screen Unit 1

scale 1:50  
0 1m 2 3



Entrance Screen Unit 2

scale 1:50



Garage

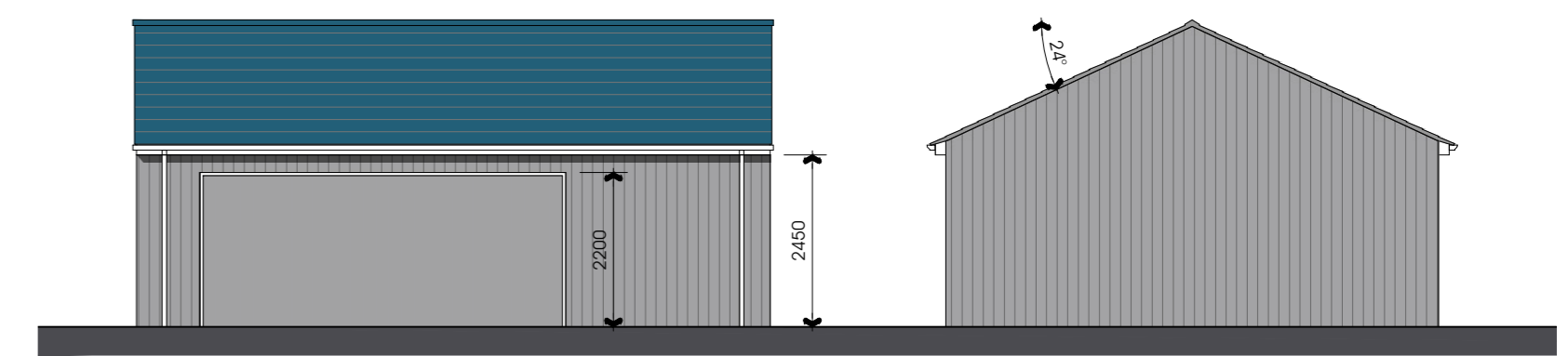
Services

Unit 1 Garage Floor Plan

scale 1:50  
0 1m 2 3

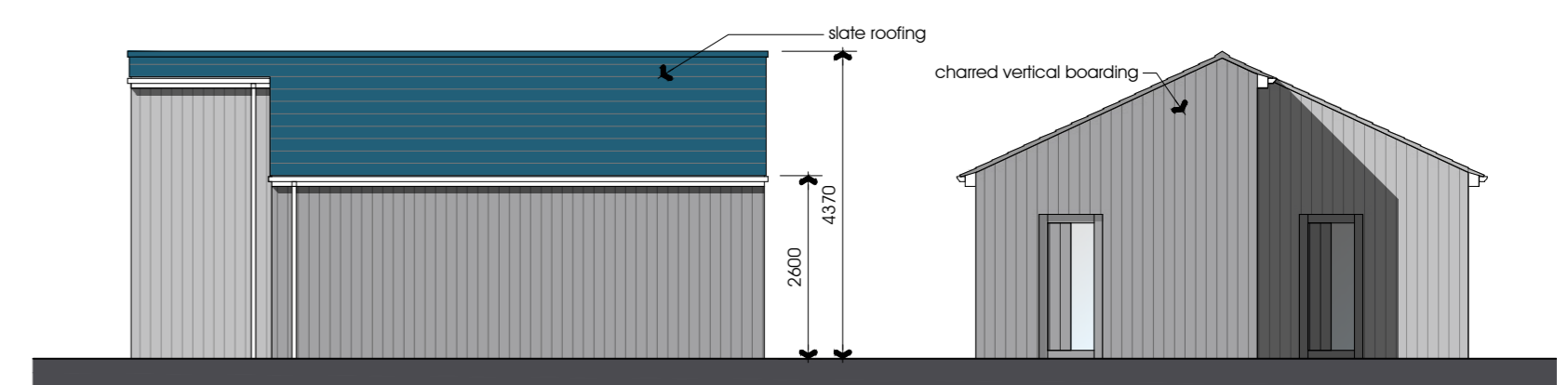


Roof Plan  
scale 1:100



Elevation North East  
scale 1:100

Elevation South East  
scale 1:100



Elevation South West  
scale 1:100

Elevation South East  
scale 1:100

0 1 2 3 4 5m

Parsonage Farm  
Church Street Ribchester, PR3 3YE  
Mr and Mrs A & J Wright  
2 Lower Barn Cottages Ribchester PR3 XS

DATE 26.05.2023

JOB NO. 3290  
DRAWING NO. 015  
REVISION  
SCALE 1:100 @ A2



Mr and Mrs A&J Wright  
Structural Condition Survey  
Parsonage Farm, Ribchester

Appendix B  
Photographs



Photo 1 - North East Elevation



Photo 2 – North East Elevation - Extension



Photo 3- North East Elevation Extension



Photo 4 – North East Elevation



Photo 5 – North East Elevation – Original Barn Entrance



Photo 6 – North East Elevation – Original Barn Entrance



Photo 7 – North East Elevation – Original Barn Entrance



Photo 8 – North East Elevation – Extensions along elevation



Photo 9 – North East Elevation – Extensions along elevation



Photo 10 – North East Elevation Roof



Photo 11 - North East Elevation Roof



Photo 12 - North East Elevation Roof



Photo 13 – North East Elevation



Photo 14 - North East Elevation



Photo 15 - North East Elevation



Photo 16 - North East Elevation



Photo 17 – South East gable



Photo 18 – South East gable



Photo 19 – South East gable



Photo 20 – South East gable



Photo 21 – South East gable



Photo 22 – South West Elevation



Photo 23 – South West Elevation



Photo 24 - South West Elevation



Photo 25 – South West Elevation



Photo 26 - South West Elevation



Photo 27 - South West Elevation – excavations to reveal former lean-to section



Photo 28 - South West Elevation – excavations to reveal former lean-to section



Photo 29 - South West Elevation



Photo 30 - South West Elevation



Photo 31 - South West Elevation



Photo 32 – North West Elevation of extension



Photo 33 – Internal – extensions to north east elevation



Photo 34 - Internal – extensions to north east elevation



Photo 35 - Internal – extensions to north east elevation



Photo 36 - Internal – extensions to north east elevation



Photo 37 - Internal – extensions to north east elevation



Photo 38 - Internal – extensions to north east elevation



Photo 39 - Internal – extensions to north east elevation



Photo 40 – Internal – main barn



Photo 41 - Internal – main barn



Photo 42 - Internal – main barn



Photo 43 - Internal – main barn



Photo 44 - Internal – main barn



Photo 45 – internal main barn



Photo 46 - Internal – main barn



Photo 47 - Internal – main barn



Photo 48 - Internal – main barn



Photo 49 - Internal – main barn



Photo 50 - Internal – main barn



Photo 51 - Internal – main barn



Photo 52 - Internal – main barn

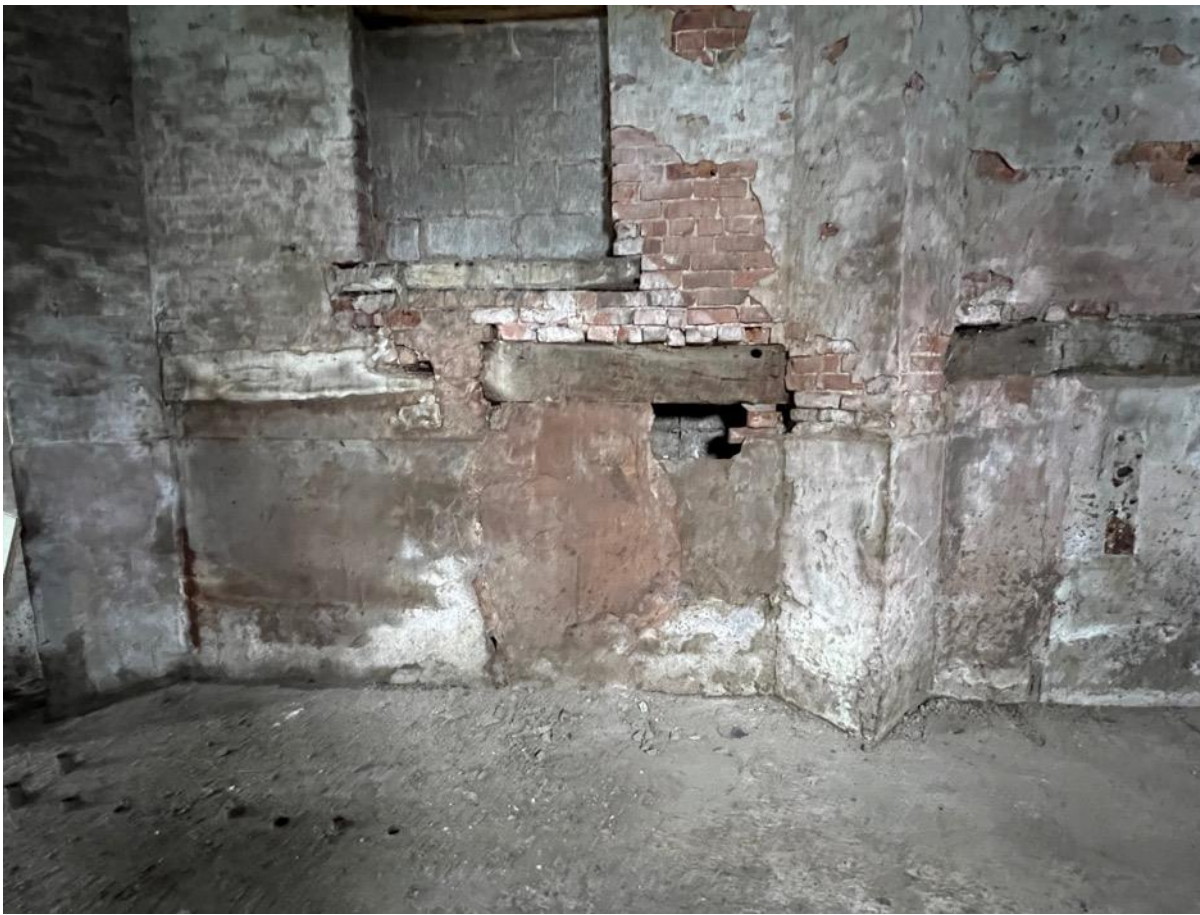


Photo 53 - Internal – main barn



Photo 54 - Internal – main barn



Photo 55 - Internal – main barn



Photo 56 - Internal – main barn – excavation to founding stones



Photo 57 - Internal – main barn



Photo 58 - Internal – main barn – rebuilt gable to main barn to extension at west end



Photo 59 – Extension at north west end



Photo 60 – mezzanine to extension



Photo 61 – extension – room to north east elevation



Photo 62 - extension – room to north east elevation



Photo 63 - extension to north west end



Photo 64 – door on north west elevation to extension



Photo 65 – North West elevation of extension

