



Wiswell Eaves Barn, Pendleton Road, Wiswell, BB7  
9BZ

**Flood Risk Assessment**

For Graham Allmond  
KRS.0952.001.R.001.A  
April 2026

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### **Wiswell Eaves Barn, Pendleton Road, Wiswell, BB7 9BZ**

|             |   |
|-------------|---|
| Project     | Flood Risk Assessment                   |
| Client      | Graham Allmond                          |
| Status      | Final                                   |
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| Date        | April 2026                              |

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## EXECUTIVE SUMMARY

The Site would be expected to remain dry in all but the most extreme conditions. The consequences of flooding are acceptable, and the development would be in accordance with the requirements of the National Planning Policy Framework (NPPF). The Proposed Development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of the NPPF. The Proposed Development should not therefore be precluded on the grounds of flood risk or drainage.

# 1.0 INTRODUCTION

## 1.1 Background

This Flood Risk Assessment (FRA) has been prepared by KRS Enviro at the request of Graham Allmond to support a planning application for a single storey side extension (“the Proposed Development”) at Wiswell Eaves Barn, Pendleton Road, Wiswell, BB7 9BZ (“the Site”).

This FRA has been carried out in accordance with guidance contained in the National Planning Policy Framework (NPPF)<sup>1</sup>, associated Planning Practice Guidance on flood risk and coastal change<sup>2</sup> (PPG) and the PPG ‘Site-specific flood risk assessment checklist’. This FRA identifies and assesses the risks of all forms of flooding to and from the development and demonstrates how these flood risks will be managed so that the development remains safe throughout the lifetime, taking climate change into account.

It is recognised that developments which are designed without regard to flood risk may endanger lives, damage property, cause disruption to the wider community, damage the environment, be difficult to insure and require additional expense on remedial works. The development design should be such that future users will not have difficulty obtaining insurance or mortgage finance, or in selling all or part of the development, as a result of flood risk issues.

## 1.2 National Planning Policy Framework (NPPF)

One of the key aims of the NPPF is to ensure that flood risk is taken into account at all stages of the planning process; to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of highest risk. This FRA has been prepared in accordance with the NPPF, in particular Paragraphs 170-182, which require that development:

- avoids inappropriate development in areas at risk of flooding;
- is directed to areas of lowest flood risk through the Sequential Test;
- is demonstrated to be safe for its lifetime, taking climate change into account;
- does not increase flood risk elsewhere; and
- incorporates appropriate opportunities for flood risk reduction and resilience.

The associated PPG has been used to structure this FRA and ensure that all sources of flooding, both now and in the future, have been assessed in accordance with current national policy.

The report findings are based upon professional judgement and are summarised below with detailed recommendations provided at the end of the report. The report includes rainfall data from the Flood Estimation Handbook (FEH) and hydrogeological information from the British Geological Survey (BGS). The assessment will summarise and refer to these datasets in the text.

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<sup>1</sup> Ministry for Housing, Communities and Local Government (2025) National Planning Policy Framework: <https://assets.publishing.service.gov.uk/media/675abd214cbda57cacd3476e/NPPF-December-2024.pdf>

<sup>2</sup> Communities and Local Government (2022) Planning Practice Guidance - Flood Risk and Coastal Change: <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

## 1.3 Report Structure

This FRA has the following report structure:

- Section 2 describes the location and the existing and Proposed Development;
- Section 3 outlines the flood risk to the existing and Proposed Development;
- Section 4 describes the surface water drainage of the existing and Proposed Development;
- Section 5 describes the risk management methods used to mitigate all sources of flood risk;
- Section 6 details the Sequential and Exception Tests; and
- Section 7 presents a summary and conclusions.

## 2.0 LOCATION & DEVELOPMENT DESCRIPTION

### 2.1 Site Location

The Site is located at Wiswell Eaves Barn, Pendleton Road, Wiswell, BB7 9BZ (see Figure 1). The National Grid Reference (NGR) of the Site is 375346, 437862.

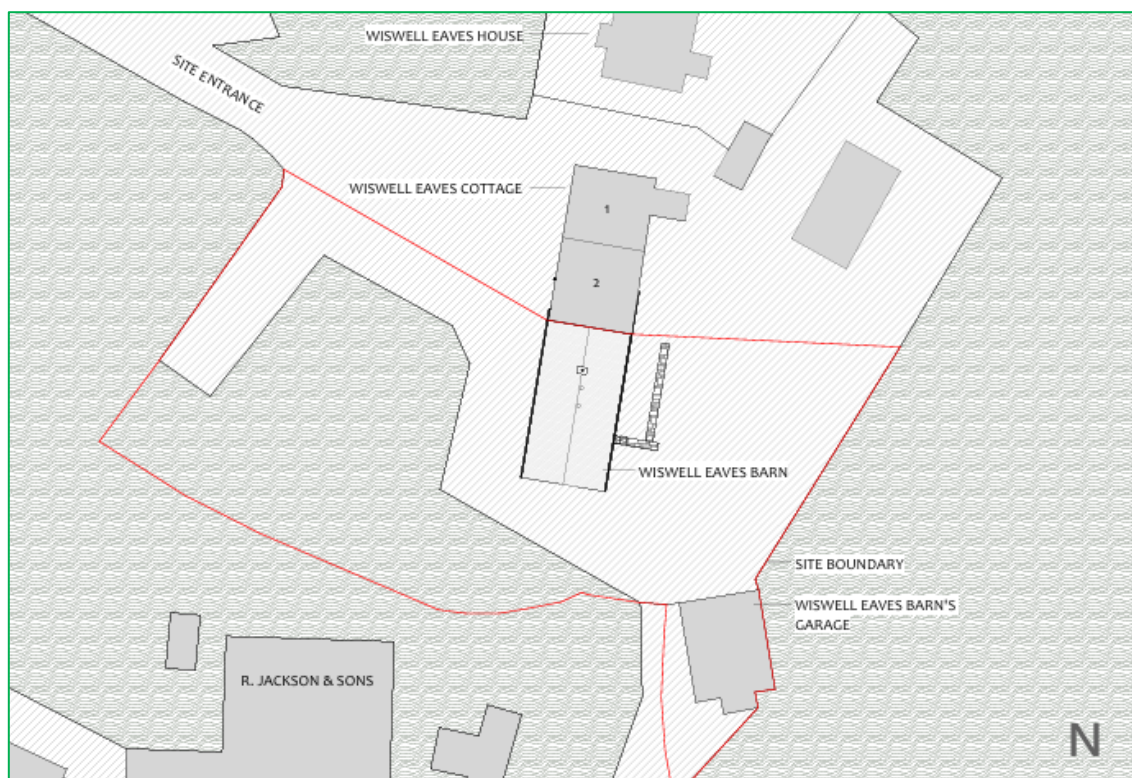


Figure 1 - Site Location

### 2.2 Existing Development

The Site currently comprises a two storey semi-detached barn conversion (see Appendix 1).

### 2.3 Proposed Development

The Proposed Development is for a single storey side extension (see Appendix 1). Further details with regard to the Proposed Development can be found in the accompanying information submitted with the planning application.

### 2.4 Ground Levels

The Site falls from south to north with an approximate maximum ground level of 203.17mAOD metres Above Ordnance Datum (mAOD) to the south and an approximate minimum ground level of 177.21mAOD to the northwest, as per the Ordnance Survey Digital Terrain Model (DTM). The approximate ground level at the location of the proposed extension is 195.97mAOD.

### 2.5 Catchment Hydrology/Drainage

To the southwest boundary of the Site there is an unnamed watercourse which forms part of the local drainage system. The unnamed watercourse is shown as an open channel to the

south of the Site and is shown flowing to the north and is shown as an issue/sink to the north of the Site.

The local drainage system comprises primarily spring-fed brooks emerging from the higher ground of Wiswell Moor, which flow downstream as narrow, shallow channels often aligned with field boundaries. These are supplemented by field edge drainage ditches and intermittent roadside grips that collect surface runoff, particularly during periods of rainfall, and convey it into minor unnamed watercourses. Some sections may pass through short culverts beneath access points or boundaries, these largely remain open and visible, combining to form the headwaters that ultimately feed into the wider River Ribble catchment.

The Pendleton Brook is located approximately 1.60km to the northeast of the Site and the Audley Reservoir is located approximately 910m to the northeast of the Site.

## 2.6 Ground Conditions

The British Geological Survey (BGS) map<sup>3</sup> shows that the bedrock deposits at the Site consist of the Bowland Shale Formation - mudstone. These sedimentary rocks are marine in origin (pelagic). They are detrital, comprising very-fine grained accumulated deposits of silica, carbonate or biogenic material, forming thinly laminated or structureless beds. There are no superficial deposits located beneath the Site.

Information from the National Soil Resources Institute<sup>4</sup> details the Site area as being situated on very acid loamy upland soils with a wet peaty surface to the east and slowly permeable seasonally wet acid loamy and clayey soils to the west of the Site.

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<sup>3</sup> [https://mapapps2.bgs.ac.uk/geoindex/home.html?\\_ga=2.14476159.932338379.1655890995-1831306757.1655472887](https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.14476159.932338379.1655890995-1831306757.1655472887)

<sup>4</sup> <http://www.landis.org.uk/soilscapes/>

## 3.0 FLOOD RISK

### 3.1 Sources of Flooding

All sources of flooding have been considered, these are; fluvial (river) flooding, tidal (coastal) flooding, groundwater flooding, surface water (pluvial) flooding, sewer flooding and flooding from artificial drainage systems/infrastructure failure.

### 3.2 Environment Agency

Information regarding the current flood risk at the application Site and local flood defences has been obtained from the Environment Agency although no modelled flood levels are currently available for this location.

### 3.3 Climate Change

Projections of future climate change, in the UK, indicate more frequent, short-duration, high intensity rainfall and more frequent periods of long duration rainfall. Guidance included within the NPPF recommends that the effects of climate change are incorporated into FRA's. Recommended precautionary sensitivity ranges for peak rainfall intensities and peak river flows are outlined in the flood risk assessments: climate change allowances guidance<sup>5</sup>. Table 1 shows the peak river flow allowances by river management catchment.

The flood risk assessments: climate change allowances guidance recommends that the central allowances are used as the design event and the higher allowances are used to test the sensitivity of flood risk across the anticipated lifespan of the development<sup>6</sup>. The lifetime of the Proposed Development, as per Environment Agency guidance, is 100 years. Therefore, the fluvial design event for the Site is the 1 in 100 year (+36%) event.

**Table 1 - Peak River Flow Allowances by River Catchment**

| Catchment                   | Allowance Category | 2020s | 2050s | 2080s |
|-----------------------------|--------------------|-------|-------|-------|
| Ribble Management Catchment | Upper              | +27%  | +44%  | +71%  |
|                             | Higher             | +19%  | +29%  | +46%  |
|                             | Central            | +16%  | +23%  | +36%  |

### 3.4 Environment Agency Flood Zones

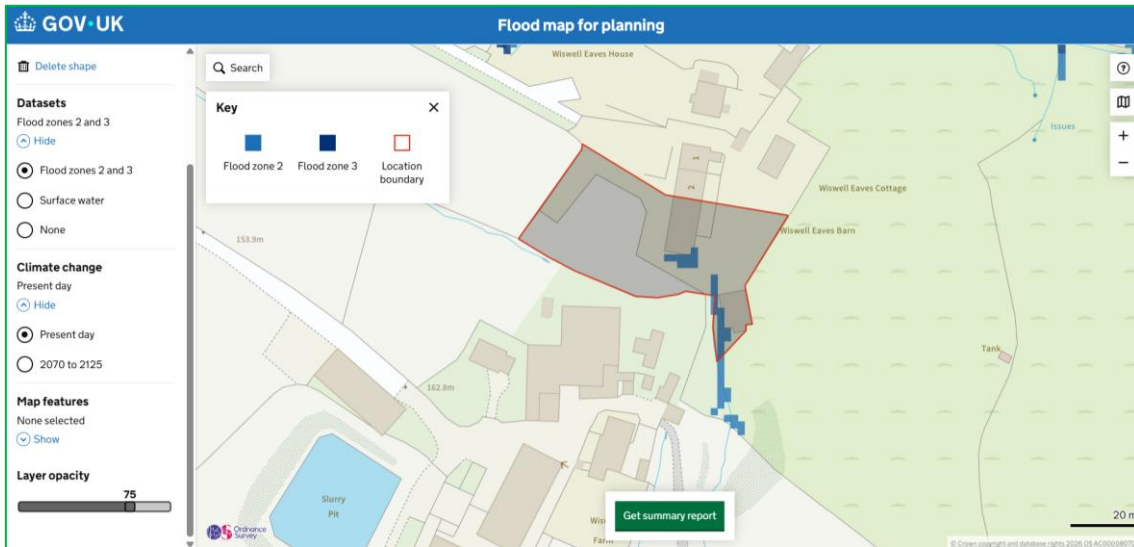
A review of the Environment Agency's Flood Zones indicates that the majority of the Site is located within Flood Zones 1 while a small proportion of the Site is located within Flood Zone 2, with a 'low to medium probability' of fluvial flooding, as shown in Figures 2 and 3.

The Flood Zones are the current best information on the extent of the extremes of flooding from rivers or the sea that would occur without the presence of flood defences, because these can be breached, overtopped and may not be in existence for the lifetime of the development. They show the worst case scenario.

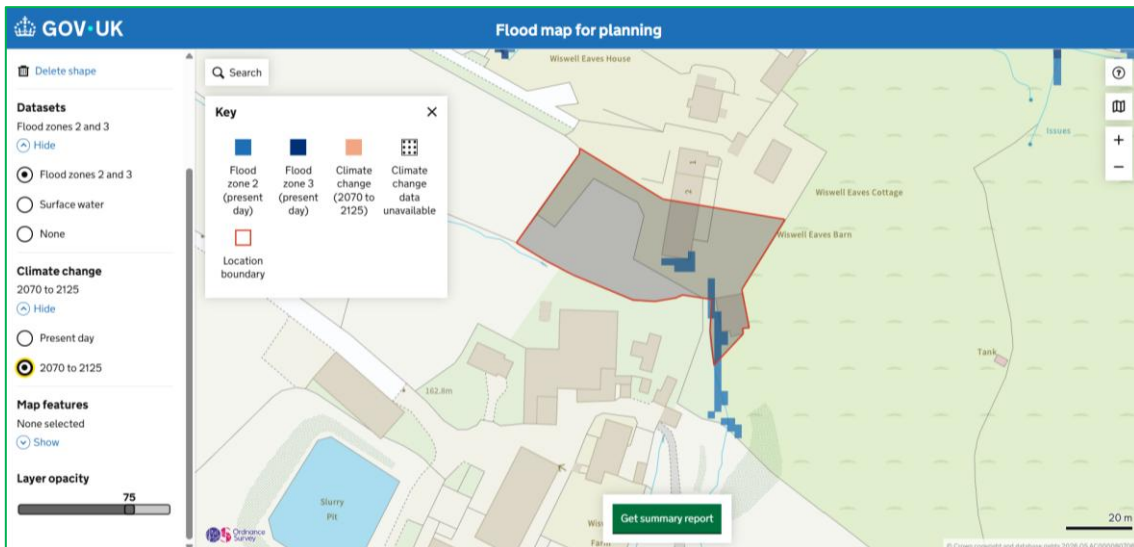
The Environment Agency Flood Zones and acceptable development types are explained in Table 2. Table 2 shows that most development types are generally acceptable in Flood Zones 1 and 2.

<sup>5</sup> <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances#high-allowances>

<sup>6</sup> <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances#high-allowances>



**Figure 2 - Environment Agency Flood Zones: Present Day**



**Figure 3 - Environment Agency Flood Zones: Climate Change 2070 to 2125**

**Table 2 - Environment Agency Flood Zones and Appropriate Land Use**

| Flood Zone | Probability | Explanation  | Appropriate Land Use                           |
|------------|-------------|--|--|
| Zone 1     | Low         | Less than a 0.1% chance of river or sea flooding in any year (1 in 1000 annual probability)  | All development types generally acceptable     |
| Zone 2     | Medium      | Between a 1% - 0.1% chance of river flooding in any year (1 in 100 and 1 in 1000 annual probability) or between a 0.5% - 0.1% chance of sea flooding in any year (1 in 200 and 1 in 1000 annual probability) | Most development type are generally acceptable |
| Zone 3a    | High        | A 1% or greater chance of river flooding in any year (1 in 100 annual probability) or 0.5% or greater chance of sea flooding in any year (1 in 200 annual probability)                                       | Some development types not acceptable          |

|         |                         |   |                                       |
|---------|-------------------------|---|---------------------------------------|
| Zone 3b | 'Functional Floodplain' | <p>This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:</p> <ul style="list-style-type: none"> <li>land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or</li> <li>land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).</li> </ul> <p>Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)</p> | Some development types not acceptable |
|---------|-------------------------|---|---------------------------------------|

### 3.5 Flood Vulnerability

In the PPG appropriate uses have been identified for the Flood Zones. Applying the Flood Risk Vulnerability Classification in the PPG, the existing and proposed use is classified as 'more vulnerable'. The Proposed Development will not increase the vulnerability of the Site to flooding or introduce a new 'more vulnerable' use into the floodplain. Table 3 of this report and the PPG state that 'more vulnerable' uses are appropriate within Flood Zones 1 and 2 after the completion of a satisfactory FRA.

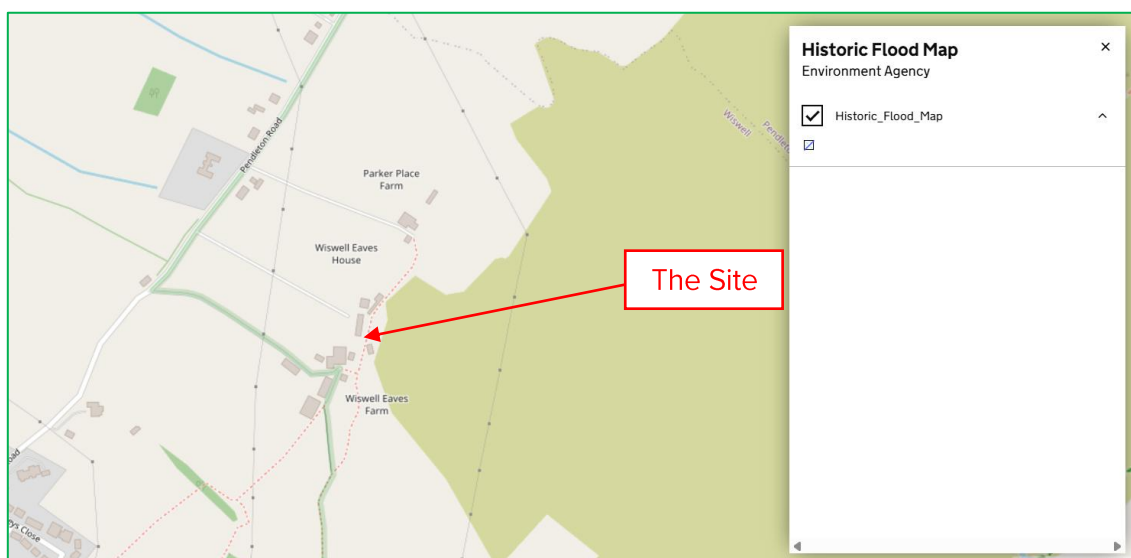
**Table 3 - Flood Risk Vulnerability and Flood Zone 'Compatibility'**

| Flood Risk Vulnerability Classification | Essential Infrastructure | Water Compatible | Highly Vulnerable       | More Vulnerable         | Less Vulnerable |
|---|--------------------------|------------------|-------------------------|-------------------------|-----------------|
| Zone 1                                  | ✓                        | ✓                | ✓                       | ✓                       | ✓               |
| Zone 2                                  | ✓                        | ✓                | Exception test required | ✓                       | ✓               |
| Zone 3a                                 | Exception test required  | ✓                | ✗                       | Exception test required | ✓               |
| Zone 3b 'Functional Floodplain'         | Exception test required  | ✓                | ✗                       | ✗                       | ✗               |

Key: ✓: Development is appropriate, ✗: Development should not be permitted.

### 3.6 Historic Flooding

The Environment Agency data shows that the Site has not historically flooded (see Figure 4). The British Hydrological Society "Chronology of British Hydrological Events" has no information on flooding within the vicinity of the Site. No other historical records of flooding for the Site have been recorded. Therefore, it has been assumed that the Site has not historically flooded in the recent past.



**Figure 4 - Environment Agency Historic Flood Outline**

### 3.7 Existing and Planned Flood Defence Measures

The Site is not protected against flooding by flood defence measures however, property level protection measures will be used to protect the Site from flooding, these are discussed in Section 5.0.

### 3.8 Fluvial (River) Flooding

Fluvial flooding from the unnamed watercourse located on the southwest boundary of the Site poses the primary but unlikely flood risk to the Site. The Environment Agency have confirmed they do not currently hold modelled data for this area.

In the absence of detailed hydraulic modelling, a review of Environment Agency Flood Zones, Rivers and Sea mapping and Surface Water flood mapping has been undertaken to provide a proportionate indication of potential overland flow pathways and localised flood risk. As detailed below these datasets provide an indication of potential overland flow pathways and localised flood risk associated with exceedance and channel surcharge conditions. On this basis, there is no evidence to suggest that the Site is subject to significant fluvial flood risk.

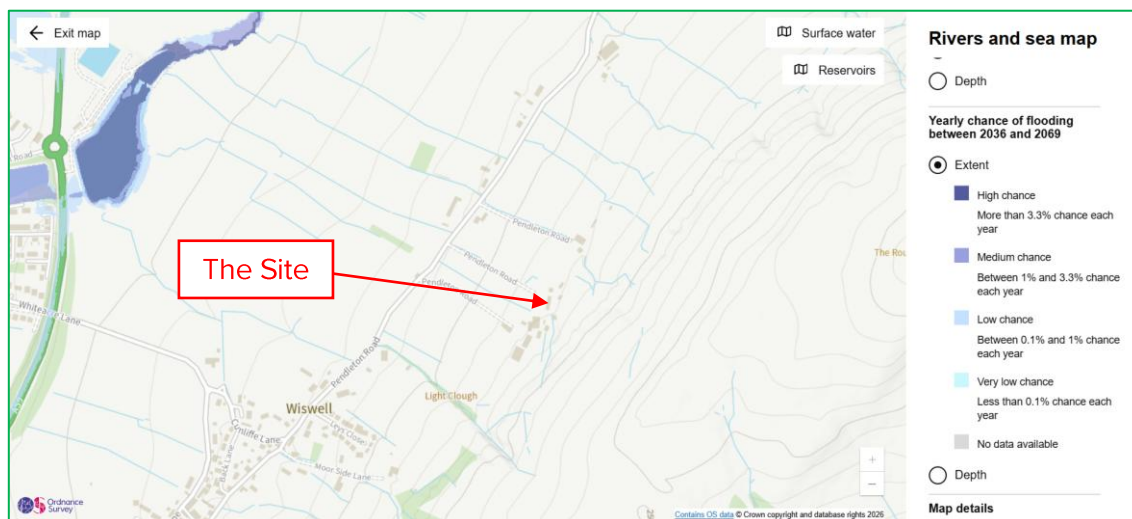
The majority of the Site is located within Flood Zones 1 while a small proportion of the Site is located within Flood Zone 2, with a 'low to medium probability' of fluvial flooding. Flood Zone 1 has an annual probability of less than 1 in 1000 years (>0.1%) and Flood Zone 2 has an annual probability of between 1 in 100 (1%) and 1 in 1000 (0.1%) years. The Environment Agency Rivers and Sea flood map shows that the Site is not at risk of fluvial flooding for all events up to and including the 1 in 1000 year in 2069 event, as shown in Figure 5.

The Environment Agency Surface Water flood map provides supporting evidence of local overland flow pathways and is consistent with the wider understanding of flood risk at the Site and shows that the majority of Site has a low risk of surface water flooding with a chance of flooding of less than 1 in 100 (1%) years, as shown in Figures 6 to 8. A small proportion of the Site is at risk of surface water flooding during the 1 in 1000 year event.

The Environment Agency Surface Water flood map shows that when climate change is taken into account that the Site still has a low risk of surface water flooding with a 1 in 1000 (0.1%) annual probability of flooding in any year between 2040 and 2060, as shown in Figure 9. The

surface water depths maps show that the Site may experience water depths of less than 0.20m during the 1 in 1000 year in 2060 event (see Figures 10 to 11).

The identified flooding is shown to follow the topography flowing to the north. The flooding will only inundate the Site to a relatively low water depth and water velocity, will only last a short period of time, in very extreme cases. Mapping indicates that any flooding is shallow, short duration and limited to extreme events. The Site is at such a ground level that it would only flood in the most extreme flood events; flooding is anticipated to be shallow, short-duration and limited to extreme events.



**Figure 5 - Environment Agency River and Sea Flood Map: Future Flooding Extent (between 2036 and 2069)**

Given the scale and nature of the Proposed Development and the size and location of the fluvial flooding sources it has been concluded that fluvial flooding poses a low flood risk to the Site. Therefore, the risk of fluvial flooding is considered to be of **low significance**. The risk of fluvial flooding will be further managed and mitigated by using a number of property level protection measures to manage and reduce the overall flood risk at the Site (see Section 5.0).

### 3.9 Tidal (Coastal) Flooding

The Site is not located within the vicinity of tidal flooding sources and the risk of tidal flooding is considered to be **not significant**.

### 3.10 Groundwater Flooding

Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

Groundwater flooding tends to occur sporadically in both location and time. When groundwater flooding does occur, it tends to mostly affect low-lying areas, below surface infrastructure and buildings (for example, tunnels, basements and car parks) underlain by permeable rocks (aquifers).

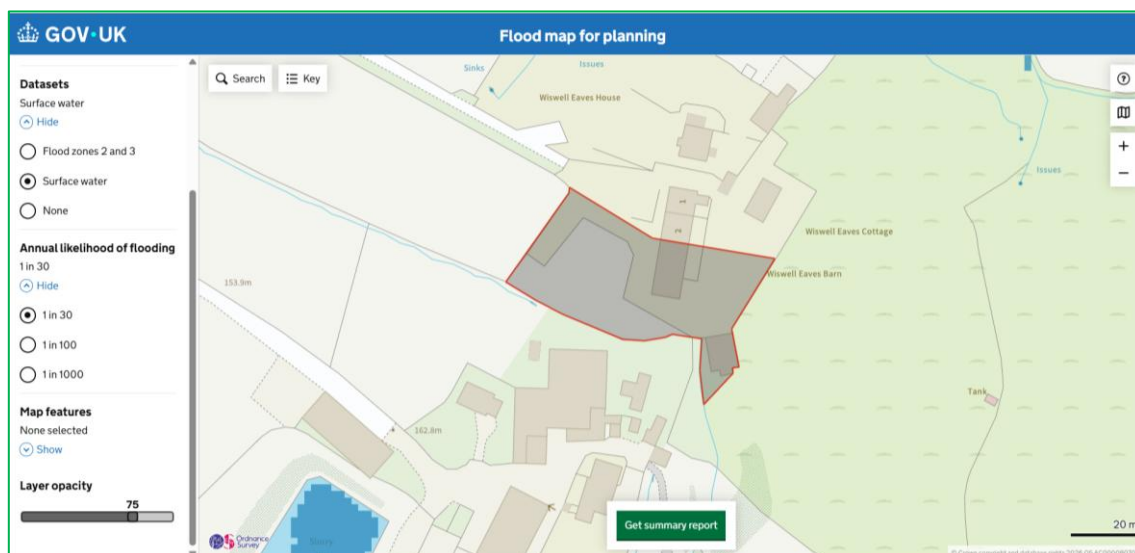
Site ground conditions suggest a low potential for groundwater flooding. The Environment Agency data shows that flooding from groundwater is unlikely in this area. Furthermore, no below surface infrastructure and buildings are proposed for the Site. The risk of flooding from groundwater flooding is considered to be **not significant**.

### 3.11 Surface Water (Pluvial) Flooding

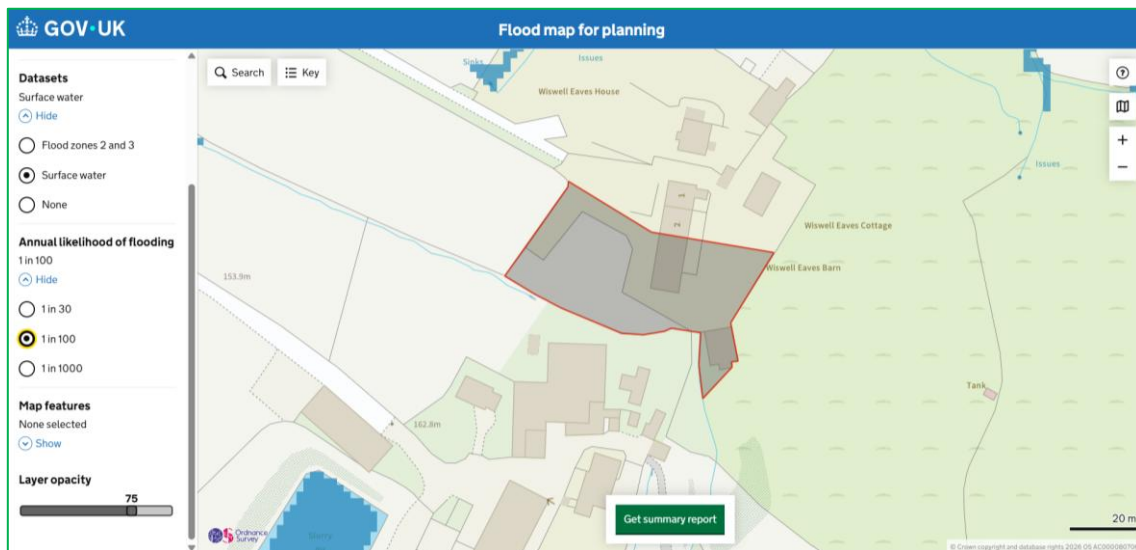
The Site is not situated near to large areas of poor permeability or areas with the geology and/or topography which may result in surface water flooding. The Site and surrounding area are characterised by locally variable topography, with a general fall from south to north. This topographic gradient directs any overland flow away from the higher ground to the south and limits the potential for significant ponding in the vicinity of the Proposed Development.

As detailed above, Environment Agency Surface Water flood map indicates that the majority of the Site is at low risk of surface water flooding, with only limited areas potentially affected during extreme events. Mapping indicates potential water depths of less than 0.20m during the 1 in 1000 year event including climate change. The extent of flooding is limited and follows local topography, flowing northwards away from the higher ground.

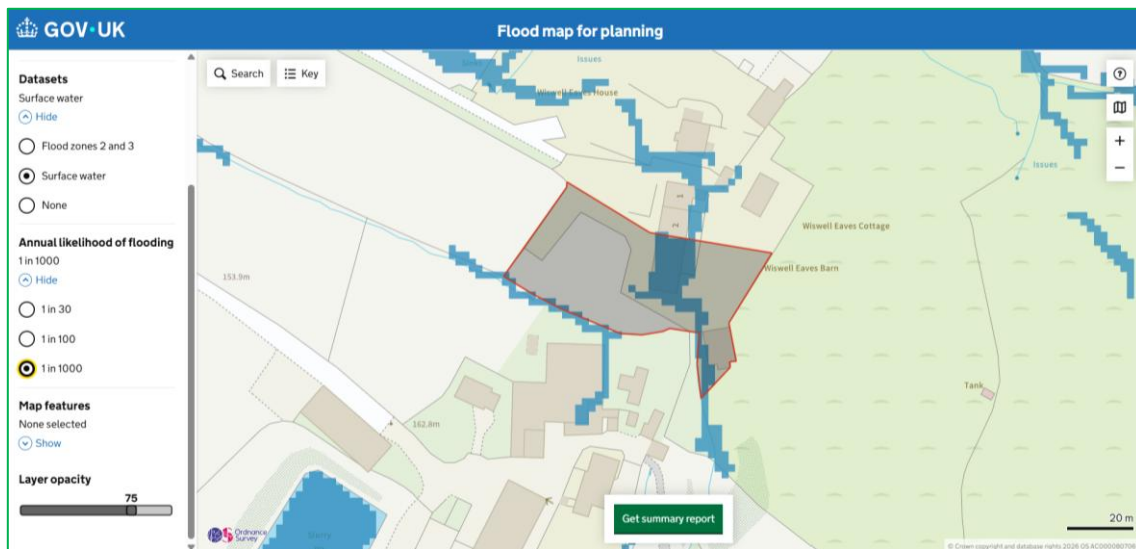
Given the scale and nature of the Proposed Development and the size and location of the surface water flooding sources it has been concluded that surface water flooding poses a low flood risk to the Site and the risk of surface water flooding is considered to be **low significance**. The risk from this source will be further mitigated by using a number of property level protection measures to manage and reduce the overall flood risk at the Site (see Section 5.0).



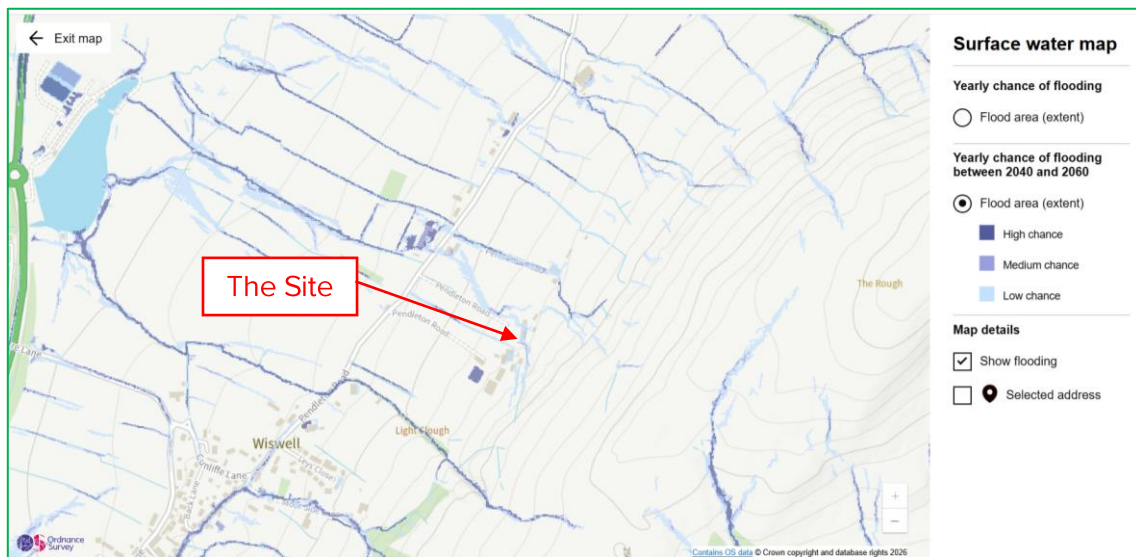
**Figure 6 - Environment Agency Surface Water Flood Map: High Risk 1 in 30 Year Event**



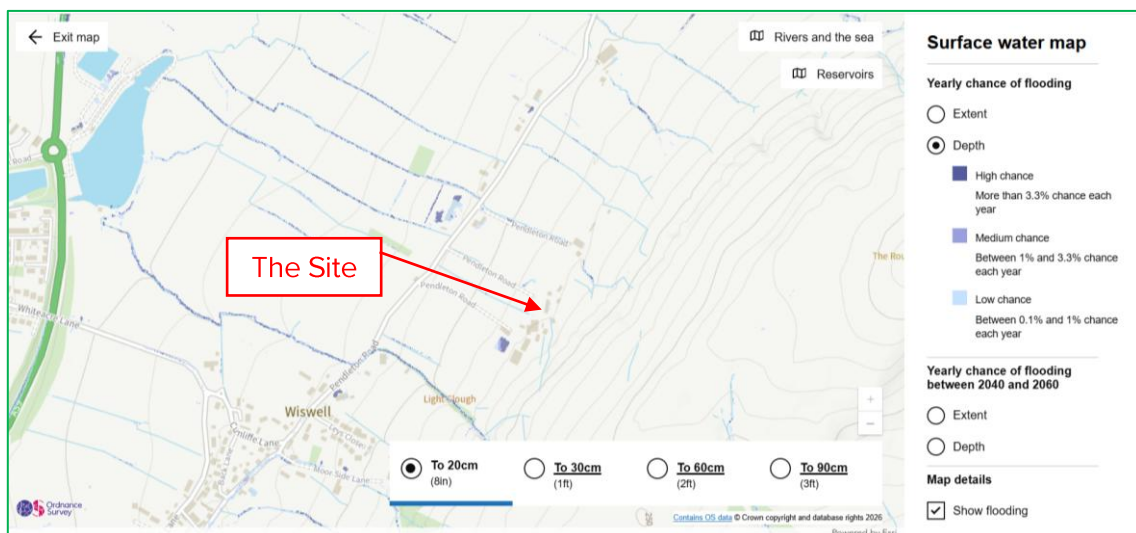
**Figure 7 - Environment Agency Surface Water Flood Map: Medium Risk 1 in 100 Year Event**



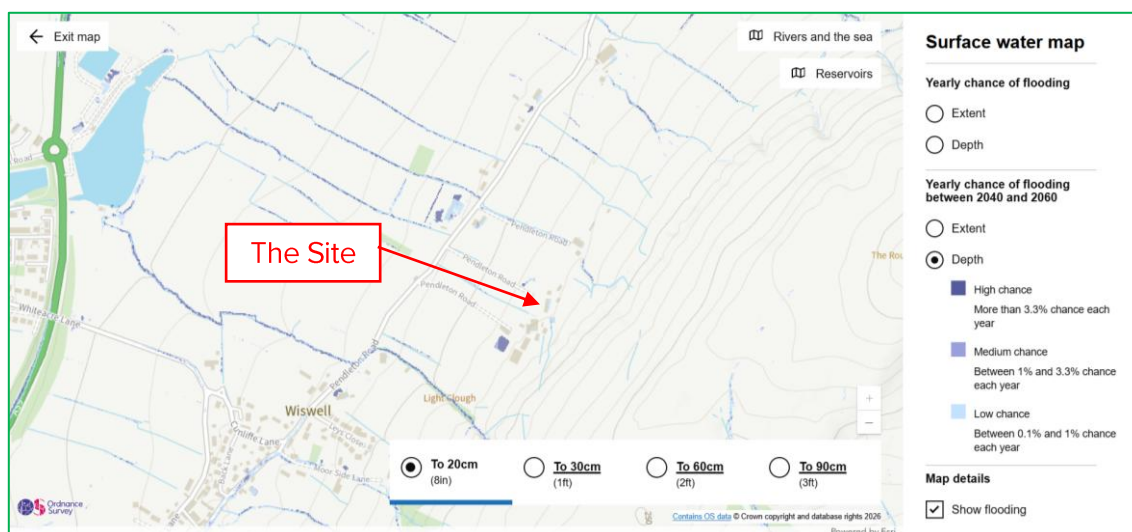
**Figure 8 - Environment Agency Surface Water Flood Map: Low Risk 1 in 1000 Year Event**



**Figure 9 - Environment Agency Surface Water Flood Map: Future Flooding Extent (between 2040 and 2060)**



**Figure 10 - Environment Agency Surface Water Flood Map: Present Day Water Depths**



**Figure 11 - Environment Agency Surface Water Flood Map: Climate Change Water Depths**

### 3.12 Sewer Flooding

Sewer flooding occurs when urban drainage networks become overwhelmed and maximum capacity is reached. This can occur if there is a blockage in the network causing water to back up behind it or if the sheer volume of water draining into the system is too great to be handled. Sewer flooding tends to occur sporadically in both location and time such flood flows would tend to be confined to the streets around the development.

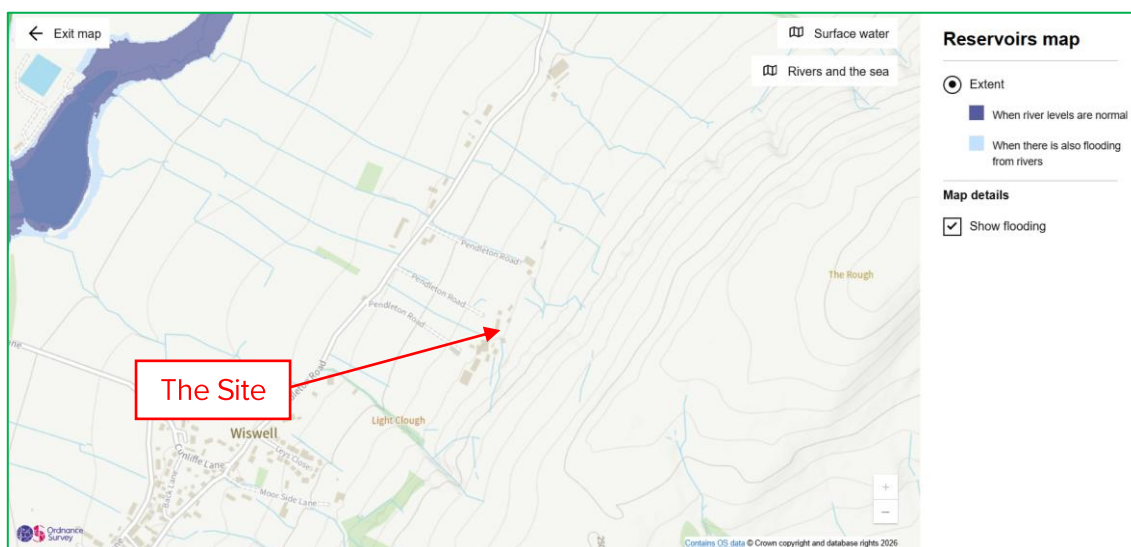
There are existing sewers located within the vicinity of the Site and these will inevitably have a limited capacity so in extreme conditions there would be surcharges, which may in turn cause flooding. Flood flows could also be generated by burst water mains, but these would tend to be of a restricted and much lower volume than weather generated events and so can be discounted for the purposes of this assessment.

Given the design parameters normally used for drainage design in recent times and allowing for some deterioration in the performance of the installed systems, which are likely to have been in place for many years, an appropriate flood risk probability from this source could be assumed to have a return period in the order of 1 in 10 to 1 in 20 years.

The provision of adequate level difference between the ground floors and adjacent ground level would reduce the annual probability of damage to property from this source to 1 in 100 years or less. There are no records of sewer flooding in the vicinity of the Site, and in the absence of confirmed DG5 entries, sewer flood risk is considered negligible. Therefore, the risk of flooding from sewer flooding is considered to be **not significant**.

### 3.13 Flooding from Artificial Drainage Systems/Infrastructure Failure

There are no other nearby artificial water bodies, reservoirs, water channels and artificial drainage systems that could be considered a flood risk to the Site. The Environment Agency reservoir flood map shows that the Site is not at risk of reservoir flooding (see Figure 12). The risk of flooding from artificial drainage systems/infrastructure failure is considered to be **not significant**.



**Figure 12 - Environment Agency Reservoir Flood Map**

### 3.14 The Effect of the Development on Flood Risk

The Site is occupied by an existing building and no land raising will occur within the Site. The Proposed Development will not increase flood risk elsewhere. Existing overland flow paths through and around the Site will be preserved, and the layout does not introduce any barriers to conveyance. There will be no net loss of floodplain storage, and ground levels will remain consistent with the existing topography. Accordingly, the Proposed Development will have no adverse impact on flood risk within the Site or the wider area.

### 3.15 Summary of Site Specific Flood Risk

A summary of the sources of flooding and a review of the risk posed by each source at the Site is shown in Table 4.

**Table 4 - Risk Posed by Flooding Sources**

| Sources of Flooding  | Potential Flood Risk | Potential Source              | Probability/Significance |
|--|----------------------|-------------------------------|--------------------------|
| Fluvial Flooding   | Yes                  | Unnamed Watercourse/Low Spots | Low                      |
| Tidal Flooding   | No                   | None Reported                 | None                     |
| Groundwater Flooding   | No                   | None Reported                 | None                     |
| Surface Water Flooding   | Yes                  | Unnamed Watercourse/Low Spots | Low                      |
| Sewer Flooding   | No                   | None Reported                 | None                     |
| Flooding from Artificial Drainage Systems/Infrastructure Failure | No                   | None Reported                 | None                     |

Fluvial flooding from the unnamed watercourse located on the southwest boundary of the Site poses the primary but unlikely flood risk to the Site. No recorded historic flooding has been identified from available datasets, including Environment Agency mapping and published hydrological records.

The majority of the Site is located within Flood Zones 1 while a small proportion of the Site is located within Flood Zone 2, with a 'low to medium probability' of fluvial flooding. The Environment Agency Rivers and Sea flood map shows that the Site is not at risk of fluvial flooding for all events up to and including the 1 in 1000 year in 2069 event.

The Environment Agency Surface Water flood maps shows that the majority of Site has a low risk of surface water flooding with a chance of flooding of less than 1 in 100 (1%) years. A small proportion of the Site is at risk of surface water flooding during the 1 in 1000 year event.

The Environment Agency Surface Water flood map shows that when climate change is taken into account that the Site still has a low risk of surface water flooding with a 1 in 1000 (0.1%) annual probability of flooding in any year between 2040 and 2060. The surface water depths maps show that the Site may experience water depths of less than 0.20m during the 1 in 1000 year in 2060 event.

The identified flooding is shown to follow the topography flowing to the north. The flooding will only inundate the Site to a relatively low water depth and water velocity, will only last a short period of time, in very extreme cases. Mapping indicates that any flooding is shallow, short duration and limited to extreme events. The Site is at such a ground level that it would only flood in the most extreme flood events; flooding is anticipated to be shallow, short-duration and limited to extreme events.

Given the scale and nature of the Proposed Development and the size and location of the fluvial flooding sources it has been concluded that fluvial flooding poses a low flood risk to the Site. Therefore, the risk of fluvial flooding is considered to be of **low significance**. A secondary flooding source has been identified which may pose a **low significant** risk to the Site. This is:

- Surface Water Flooding

The flood risk at the Site will be further mitigated by using a number of property level protection measures to manage and reduce the overall flood risk at the Site (see Section 5.0).

The Site is occupied by an existing building and no land raising will occur within the Site. The Proposed Development will not increase flood risk elsewhere. Existing overland flow paths through and around the Site will be preserved, and the layout does not introduce any barriers to conveyance. There will be no net loss of floodplain storage, and ground levels will remain consistent with the existing topography. Accordingly, the Proposed Development will have no adverse impact on flood risk within the Site or the wider area.

The existing and proposed use is classified as 'more vulnerable'. The Proposed Development will not change the vulnerability of the Site to flooding, will not change the nature or times of occupation or introduce a new 'more vulnerable' use into the floodplain. 'More vulnerable' uses are appropriate within Flood Zones 1 and 2 after the completion of a satisfactory FRA.

## 4.0 SURFACE WATER DRAINAGE

### 4.1 Surface Water Management Overview

It is recognised that consideration of flood issues should not be confined to the floodplain. The alteration of natural surface water flow patterns through developments can lead to problems elsewhere in the catchment, particularly flooding downstream. For example, replacing vegetated areas with roofs, roads and other paved areas can increase both the total and the peak flow of surface water runoff from the Site. Changes of land use on previously developed land can also have significant downstream impacts where the existing drainage system may not have sufficient capacity for the additional drainage.

An assessment of the surface water runoff rates has been undertaken, in order to determine the surface water options and attenuation requirements for the Site. The assessment considers the impact of the proposals compared to current conditions. Therefore, the surface water attenuation requirement for the developed Site can be determined and reviewed against existing arrangements.

The surface water drainage arrangements for any development site should be such that the volumes and peak flow rates of surface water leaving a developed site are no greater than the rates prior to the Proposed Development unless specific off-site arrangements are made and result in the same net effect.

### 4.2 Surface Water Runoff Rates/Volumes

The Proposed Development will not alter the impermeable areas of the Site. There will be no increase in surface water runoff or exacerbation of off-site risk as a result of the development. It is understood that the existing drainage infrastructure at the Site efficiently and effectively manages surface water runoff generated at the Site. The Proposed Development will continue to discharge to the public sewers.

## 5.0 RISK MANAGEMENT

### 5.1 Introduction

The flood risk at this location is considered suitable for the Proposed Development within the NPPF. In this flood zone, developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area through the layout and form of the development and the use of flood mitigation measures.

The flooding sources will be mitigated on the Site by using a number of techniques, and mitigation strategies to manage and reduce the overall flood risk at the Site. This will ensure the development will be safe and there is:

- Minimal risk to life;
- Minimal disruption to people living and working in the area;
- Minimal potential damage to property;
- Minimal impact of the Proposed Development on flood risk generally; and;
- Minimal disruption to natural heritage.

The flood risk at the Site will be reduced by mitigation measures; these are discussed in more detail below.

### 5.2 Finished Floor Level

The finished floor levels of the proposed extension will be set no lower than the existing house which is raised above the existing ground level and will therefore, be located above the water depths which may be experienced which have been shown to be less than 0.20m during the 1 in 1000 year in 2060 event.

It is recognised however that owing to limited headroom constraints, massing, planning policy and Building Regulations it is considered impractical to raise the finished floor levels further, than those stated above. Therefore, in order to mitigate against this, it is recommended that the occupants implement a Flood Plan.

It is also proposed that flood protection measures are employed within the building design to reduce the overall risk to the occupants. This is discussed below.

### 5.3 First Floor Accommodation

As an additional precaution, upper floor accommodation provides an area of refuge above any potential flood levels. This measure would only be relied upon in highly unlikely and extreme circumstances.

### 5.4 Flood Resistance

Flood risk can be mitigated through the design of the building. Flood resistance measures are measures that help resist floodwaters entering a property (airbrick covers are an example of a flood resistance measure). Flood resistant measures will be used, including:

- The extension will incorporate robust construction detailing and durable materials.
- Sealant will be used around all external doors and windows.

- All windows will be located above ground levels.
- All external doors and windows are constructed from hard wearing materials.

These factors will prevent water entering the property and make the property more resistant to seepage.

## 5.5 Flood Resilience

The Flood resilience measures are designed in such a way as to reduce the cost and time required to reinstate the property should it be flooded (tiled floors are an example of a flood resilience measure).

The extension will be constructed in such a way that although floodwater may enter the building, elements that are damaged by flood water can be easily repaired or replaced. This is a form of flood resilience. They are suitable as no other measure is practicable. Robust materials and finishes will be used, including:

- all electrics wiring, switches, sockets, socket outlets etc. to be located a minimum of 450mm above the finished floor levels.

## 5.6 Flood Plan

A Flood Plan outlining the precautions and actions you should take when a flood event is anticipated to help reduce the impact and damage flooding may cause will be developed. Sensible precautions would include raising electrical items, moving valuable items off the ground or where possible moving them to a higher floor, rolling up carpets and rugs and turning off utilities. In addition, consider what actions you would take should the property need to be evacuated including access and egress routes and preparing a flood kit in advance containing warm clothing, medication, a torch, food and wellingtons.

The Flood Plan is a 'living' document and therefore should be periodically reviewed and updated to provide advice and guidance to occupants in the event of an extreme flood. The Flood Plan will therefore reduce the vulnerability of the occupants to flooding and makes them aware of the mechanisms of flooding at the Site.

## 5.7 Safe Access and Egress

Safe access and egress can be maintained during all anticipated flood events, with no evidence of flooding affecting the Site access based on available mapping.

## 5.8 Flooding Consequences

The mitigation measures detailed above show that the flood risk can be effectively managed and therefore the consequences of flooding are acceptable. As such, the residual risk is considered to be acceptable for the lifetime of the development.

## 6.0 SEQUENTIAL APPROACH

### 6.1 Sequential and Exception Tests

The risk-based Sequential Test in accordance with the NPPF aims to steer new development to areas at the lowest probability of flooding (i.e. Flood Zone 1). However, paragraph 176 of the NPPF confirms that: *'Applications for some minor development and changes of use<sup>7</sup> should not be subject to the Sequential or Exception Tests but should still meet the requirements for site-specific flood risk assessments'*.

In accordance with paragraph 176 of the NPPF, the Sequential and Exception Tests are not required for this minor development.

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<sup>7</sup> This includes householder development, small non-residential extensions (with a footprint of less than 250m<sup>2</sup>) and changes of use; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the sequential and exception tests should be applied as appropriate.

## 7.0 SUMMARY AND CONCLUSIONS

### 7.1 Introduction

This report presents a FRA in accordance with the NPPF for the Proposed Development at Wiswell Eaves Barn, Pendleton Road, Wiswell, BB7 9BZ.

This FRA identifies and assesses the risks of all forms of flooding to and from the development and demonstrates how these flood risks will be managed so that the development remains safe throughout the lifetime, taking climate change into account.

### 7.2 Flood Risk

Fluvial flooding from the unnamed watercourse located on the southwest boundary of the Site poses the primary but unlikely flood risk to the Site. No recorded historic flooding has been identified from available datasets, including Environment Agency mapping and published hydrological records.

The majority of the Site is located within Flood Zones 1 while a small proportion of the Site is located within Flood Zone 2, with a 'low to medium probability' of fluvial flooding. The Environment Agency Rivers and Sea flood map shows that the Site is not at risk of fluvial flooding for all events up to and including the 1 in 1000 year in 2069 event.

The Environment Agency Surface Water flood map is representative of the fluvial flood risk at this location. The Environment Agency Surface Water flood maps shows that the majority of Site has a low risk of surface water flooding with a chance of flooding of less than 1 in 100 (1%) years. A small proportion of the Site is at risk of surface water flooding during the 1 in 1000 year event.

The Environment Agency Surface Water flood map shows that when climate change is taken into account that the Site still has a low risk of surface water flooding with a 1 in 1000 (0.1%) annual probability of flooding in any year between 2040 and 2060. The surface water depths maps show that the Site may experience water depths of less than 0.20m during the 1 in 1000 year in 2060 event.

The identified flooding is shown to follow the topography flowing to the north. The flooding will only inundate the Site to a relatively low water depth and water velocity, will only last a short period of time, in very extreme cases. Mapping indicates that any flooding is shallow, short duration and limited to extreme events. The Site is at such a ground level that it would only flood in the most extreme flood events; flooding is anticipated to be shallow, short-duration and limited to extreme events.

Given the scale and nature of the Proposed Development and the size and location of the fluvial flooding sources it has been concluded that fluvial flooding poses a low flood risk to the Site. Therefore, the risk of fluvial flooding is considered to be of **low significance**. A secondary flooding source has been identified which may pose a **low significant** risk to the Site. This is:

- Surface Water Flooding

The flood risk at the Site will be further mitigated by using a number of property level protection measures to manage and reduce the overall flood risk at the Site.

The Site is occupied by an existing building and no land raising will occur within the Site. The Proposed Development will not increase flood risk elsewhere. Existing overland flow paths through and around the Site will be preserved, and the layout does not introduce any barriers

to conveyance. There will be no net loss of floodplain storage, and ground levels will remain consistent with the existing topography. Accordingly, the Proposed Development will have no adverse impact on flood risk within the Site or the wider area.

The existing and proposed use is classified as 'more vulnerable'. The Proposed Development will not change the vulnerability of the Site to flooding, will not change the nature or times of occupation or introduce a new 'more vulnerable' use into the floodplain. 'More vulnerable' uses are appropriate within Flood Zones 1 and 2 after the completion of a satisfactory FRA.

### 7.3 Surface Water Drainage

The Proposed Development will not alter the impermeable areas of the Site. There will be no increase in surface water runoff or exacerbation of off-site risk as a result of the development. It is understood that the existing drainage infrastructure at the Site efficiently and effectively manages surface water runoff generated at the Site. The Proposed Development will continue to discharge to the public sewers.

### 7.4 Risk Management

The flood risk at the Site will be reduced by using a number of risk management measures to manage and reduce the overall flood risk at the Site. Measures used:

**Finished Floor Level:** The finished floor levels of the proposed extension will be set no lower than the existing house which is raised above the existing ground level and will therefore, be located above the water depths which may be experienced which have been shown to be less than 0.20m during the 1 in 1000 year in 2060 event.

It is recognised however that owing to limited headroom constraints, massing, planning policy and Building Regulations it is considered impractical to raise the finished floor levels further, than those stated above. Therefore, in order to mitigate against this, it is recommended that the occupants implement a Flood Plan.

It is also proposed that flood protection measures are employed within the building design to reduce the overall risk to the occupants. This is discussed below.

**First Floor Accommodation:** As an additional precaution, upper floor accommodation provides an area of refuge above any potential flood levels. This measure would only be relied upon in highly unlikely and extreme circumstances.

**Flood Resistance Measures:** Flood resistant measures will be used, including:

- The extension will incorporate robust construction detailing and durable materials.
- Sealant will be used around all external doors and windows.
- All windows will be located above ground levels.
- All external doors and windows are constructed from hard wearing materials.

**Flood Resilience Measures:** Robust materials and finishes will be used, including:

- all electrics wiring, switches, sockets, socket outlets etc. to be located a minimum of 450mm above the finished floor levels.

**Flood Plan:** A Flood Plan outlining the precautions and actions you should take when a flood event is anticipated to help reduce the impact and damage flooding may cause will be developed.

**Safe Access and Egress:** Safe access and egress can be maintained during all anticipated flood events, with no evidence of flooding affecting the Site access based on available mapping.

## 7.5 Sequential Approach

In accordance with paragraph 176 of the NPPF, the Sequential and Exception Tests are not required for this minor development.

## 7.6 Conclusion

In conclusion, the Proposed Development, would be expected to remain dry in all but the most extreme conditions. Providing the recommendations made in this FRA are instigated, flood risk from all sources would be minimised, the consequences of flooding are acceptable and the development would be in accordance with the requirements of the NPPF.

This FRA demonstrates that the Proposed Development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of the NPPF. The development should not therefore be precluded on the grounds of flood risk and drainage.



## APPENDICES

## **APPENDIX 1 – Existing and Proposed Site Layout**

NOTES:  
For Planning purposes only.

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CLIENT: Graham Allmond  
Wiswell Eaves Barn,  
Pendleton Road Wiswell,  
Clitheroe Lancashire,  
BB7 9BZ

PROJECT: Proposed Side Extension and  
Alterations

SHEET: EXISTING SITE PLAN

Project number PHA/1039

Date 21/01/2026

Drawn by LW

Checked by PH

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1 EXISTING SITE PLAN.  
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NOTES:

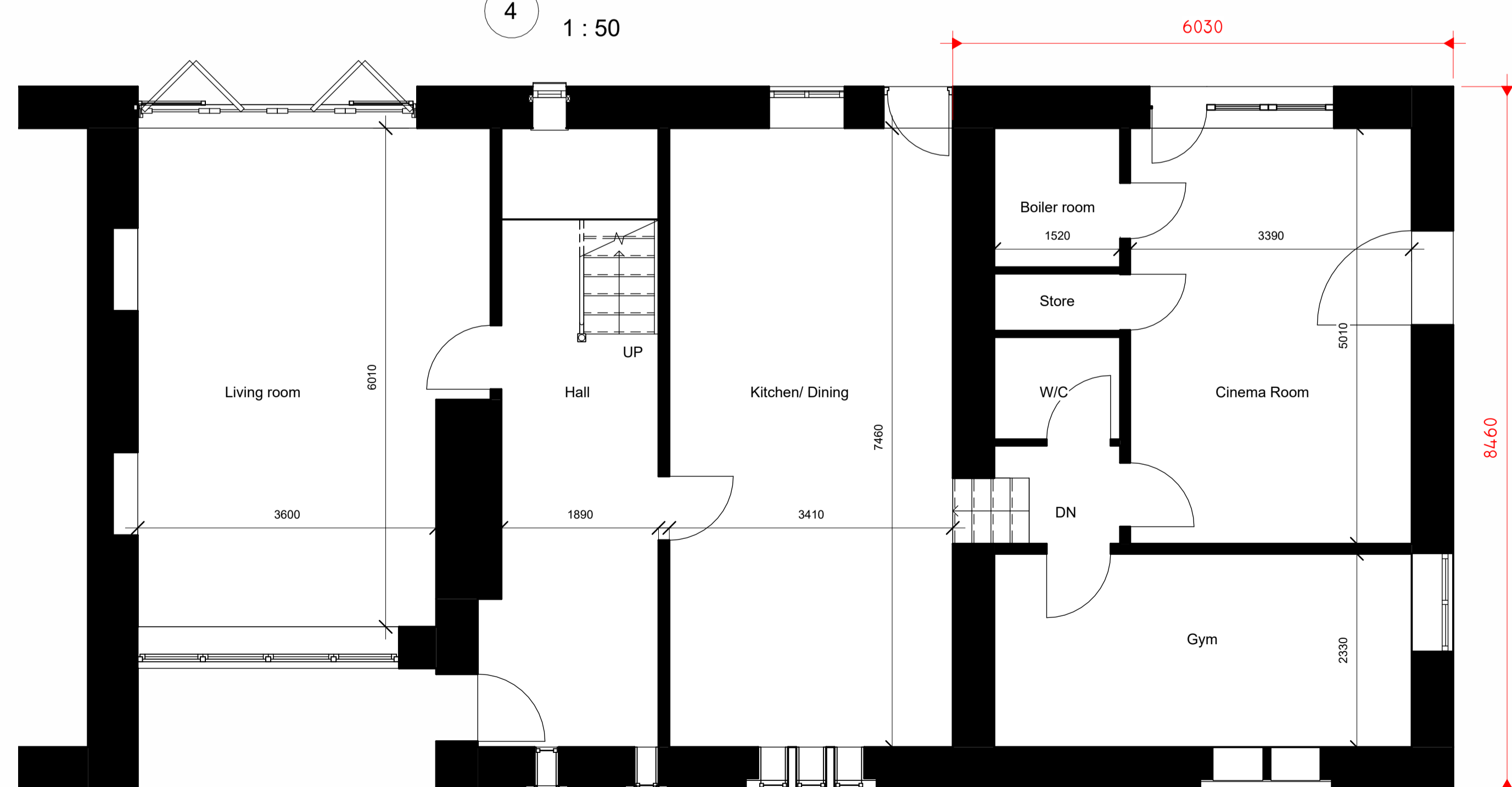
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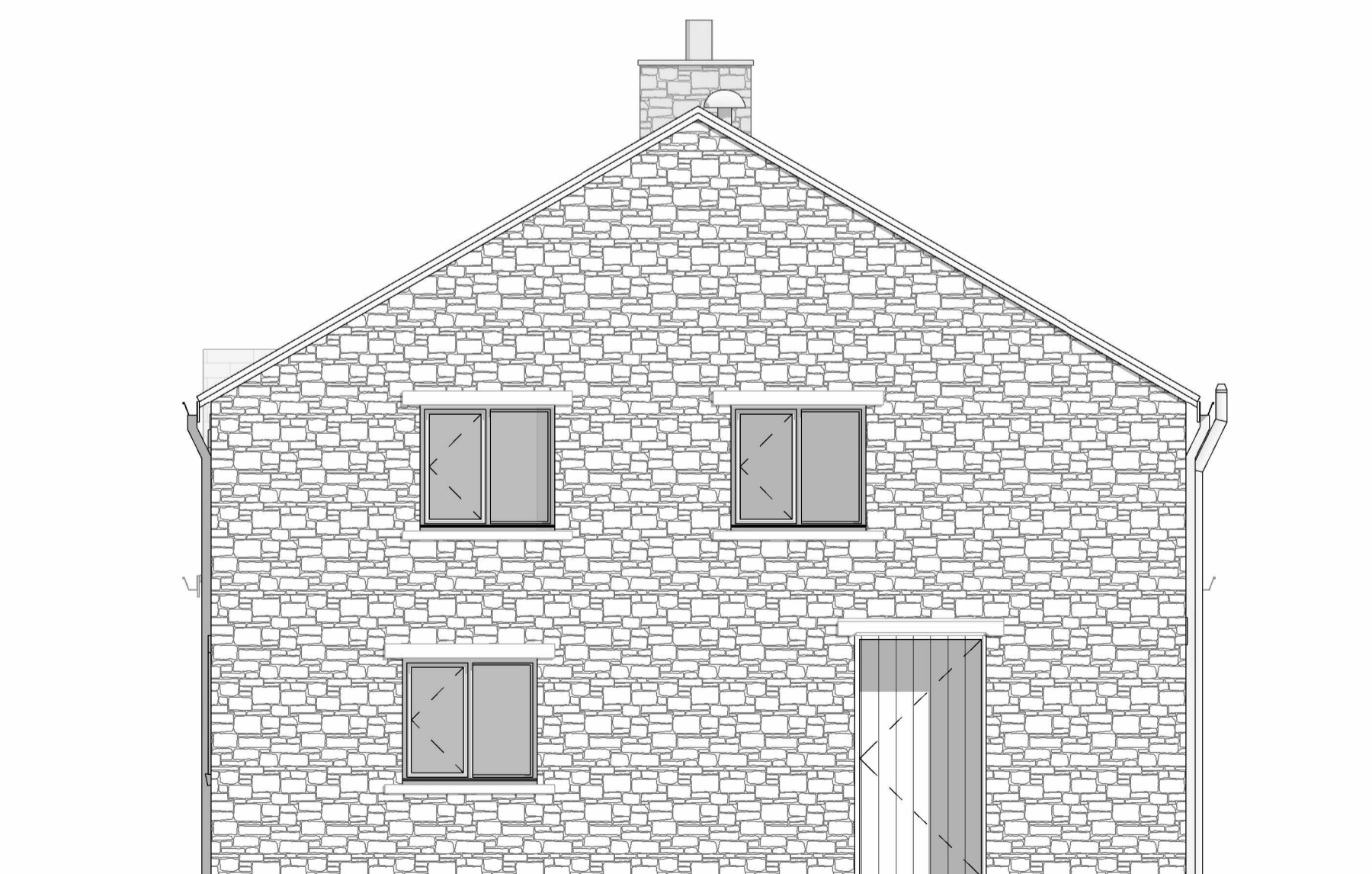
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4 Existing West  
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1 Ground floor  
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3 Existing South  
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CLIENT: Graham Allmond  
  
Wiswell Eaves Barn,  
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Clitheroe, Lancashire,  
BB7 9BZ

PROJECT: Proposed Side Extension and  
Alterations

SHEET: Existing Plan & Elevations

Project number PHA/1039

Date 19/06/2025

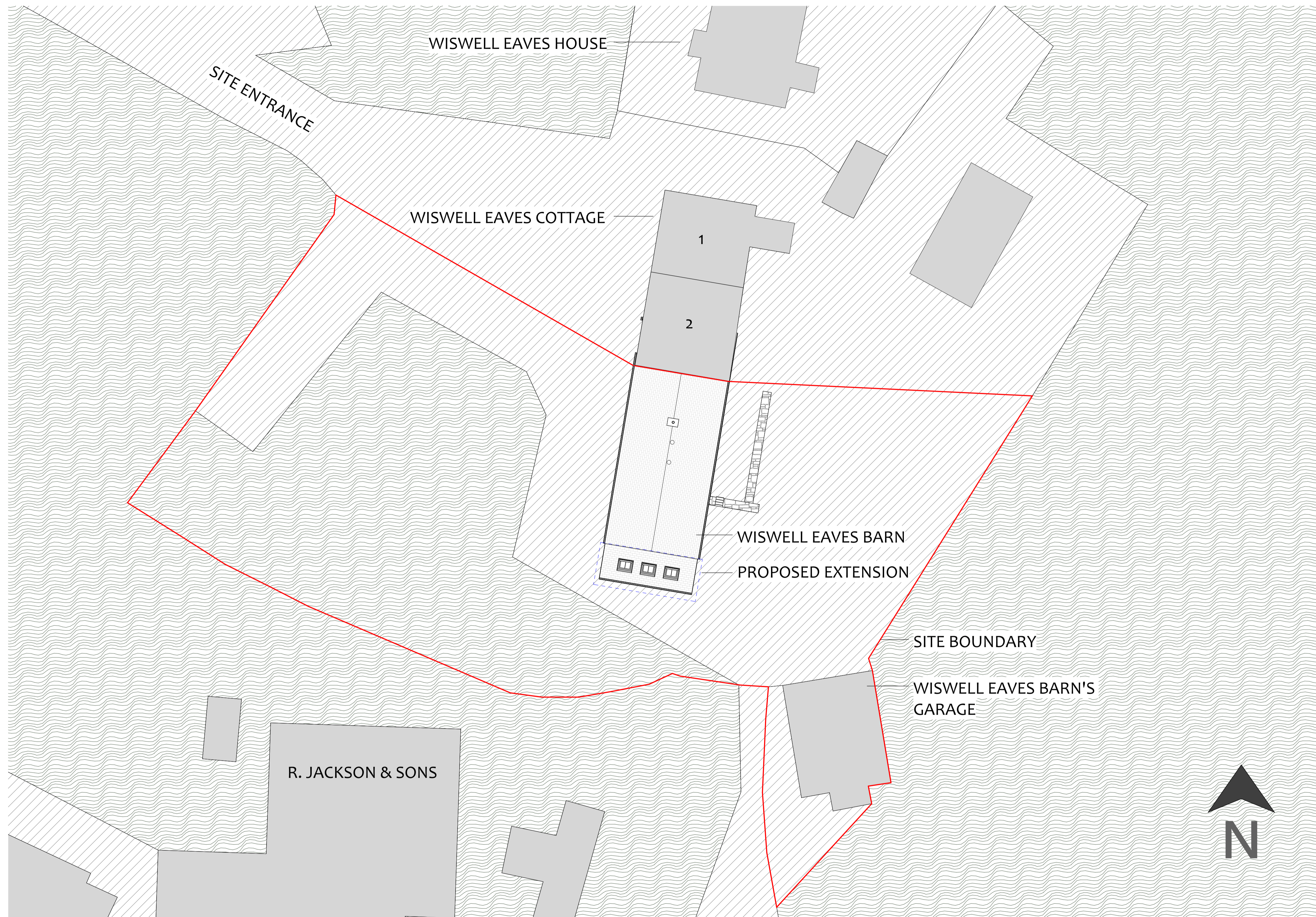
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CLIENT: Graham Allmond  
Wiswell Eaves Barn,  
Pendleton Road Wiswell,  
Clitheroe Lancashire,  
BB7 9BZ

PROJECT: Proposed Side Extension and  
Alterations

SHEET: PROPOSED SITE PLAN

Project number PHA/1039

Date 21/01/2026

Drawn by LM

Checked by PH

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1 PROPOSED SITE PLAN  
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CLIENT: Graham Allmond  
Wiswell Eaves Barn,  
Pendleton Road Wiswell,  
Clitheroe Lancashire,  
BB7 9BZ

PROJECT: Proposed Side Extension and  
Alterations

SHEET: PROPOSED ELEVATIONS 1

Project number PHA/1039

Date 21/01/2026

Drawn by LM

Checked by PH

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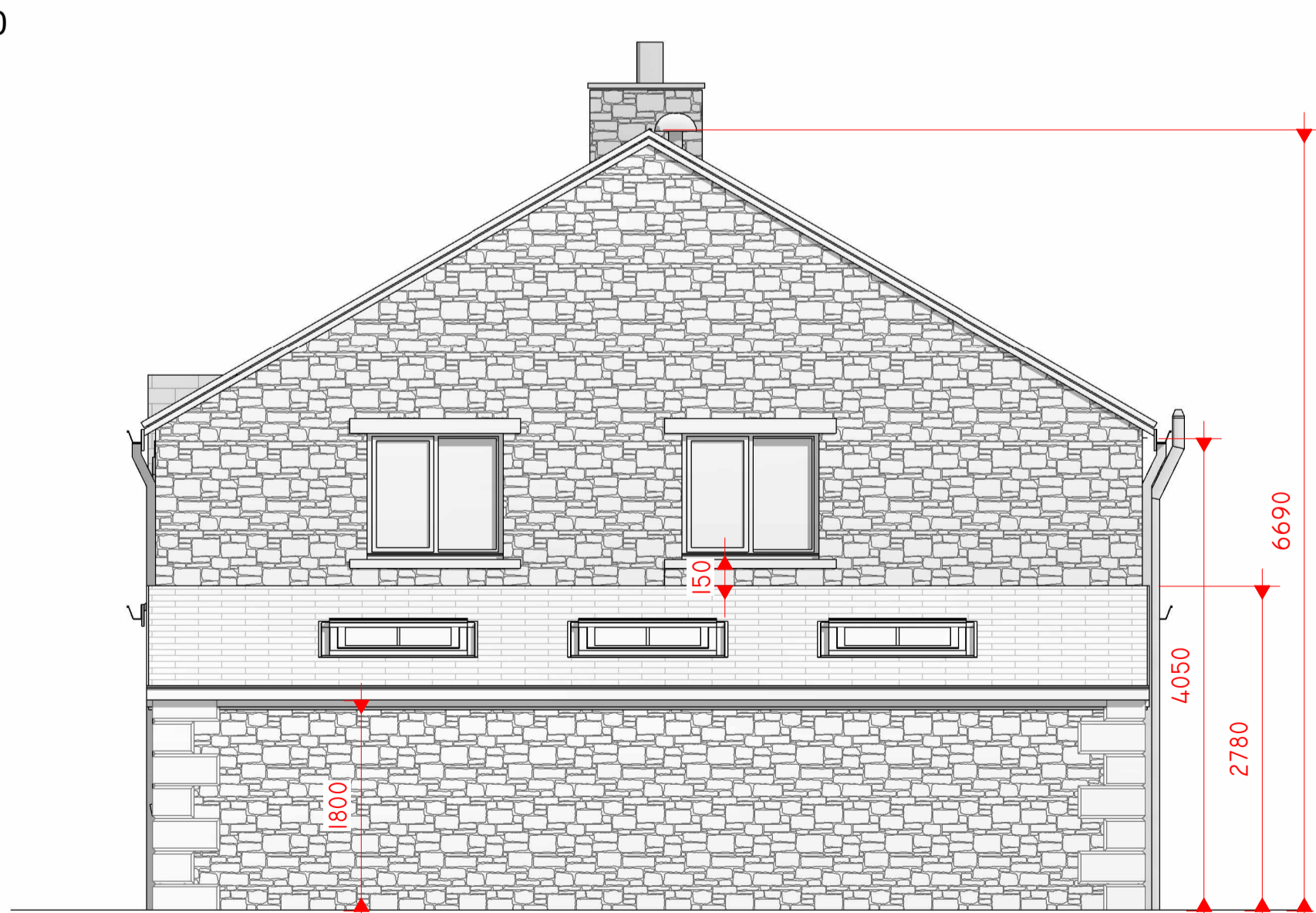
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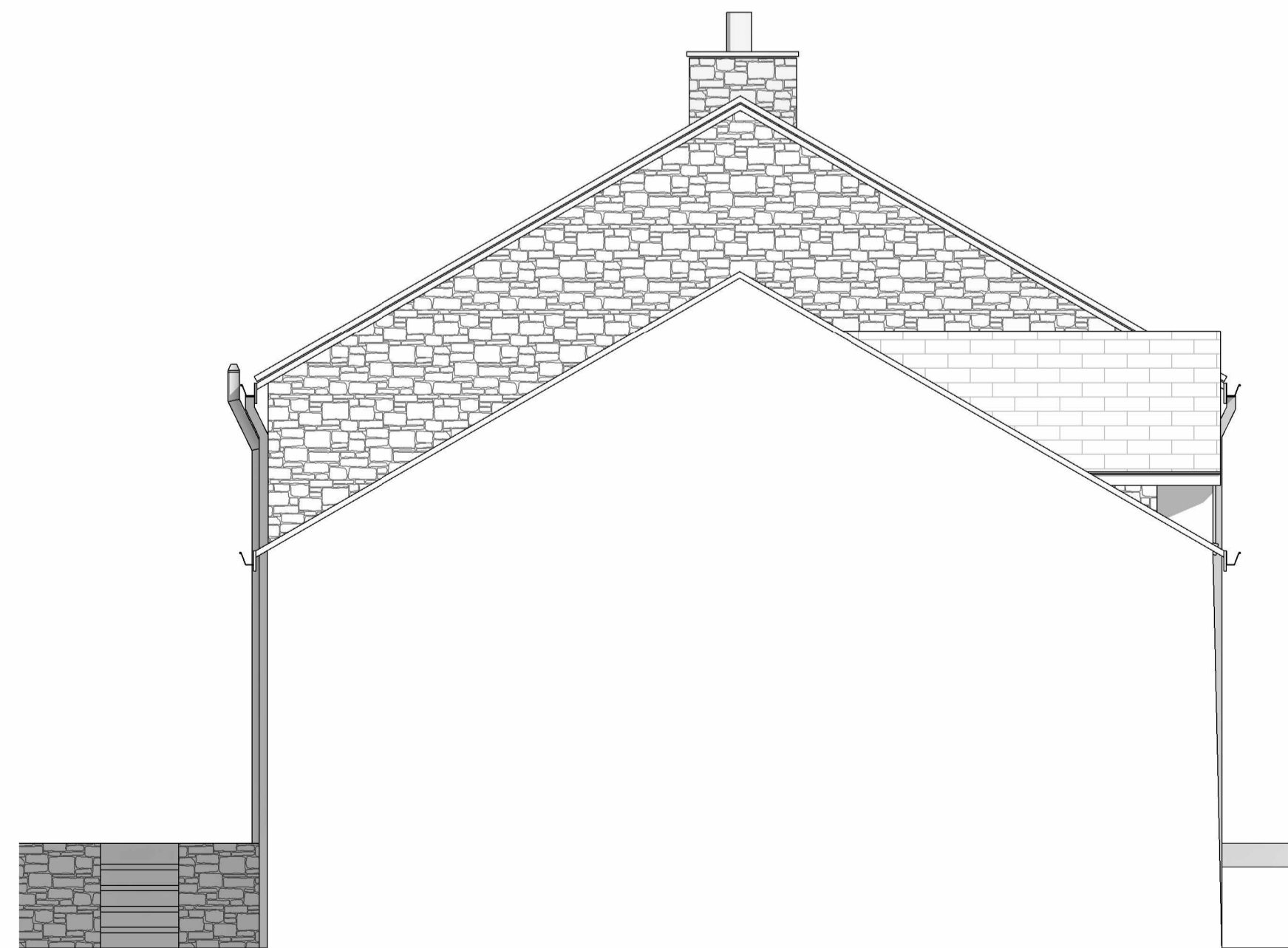
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4 Proposed West.  
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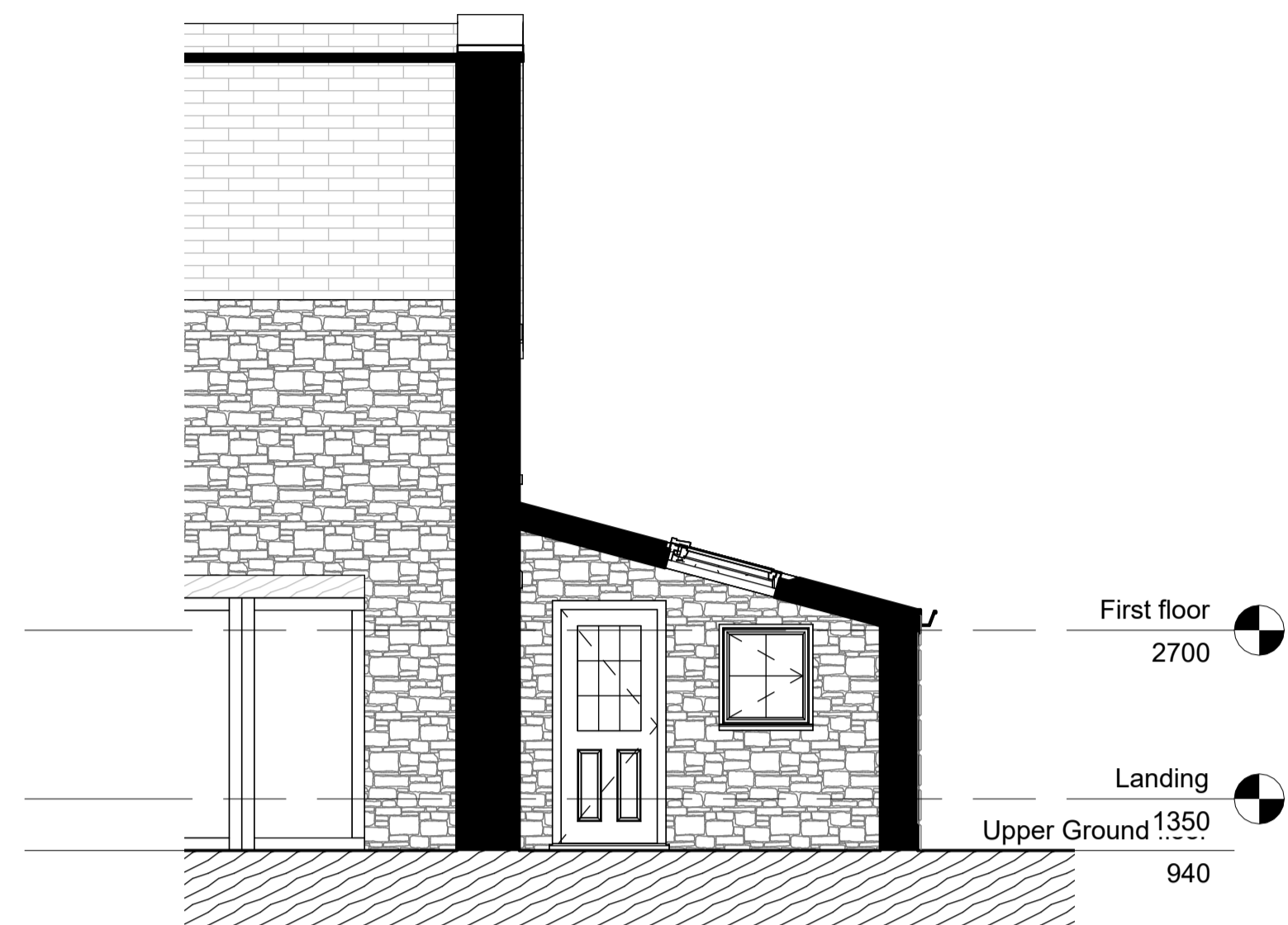
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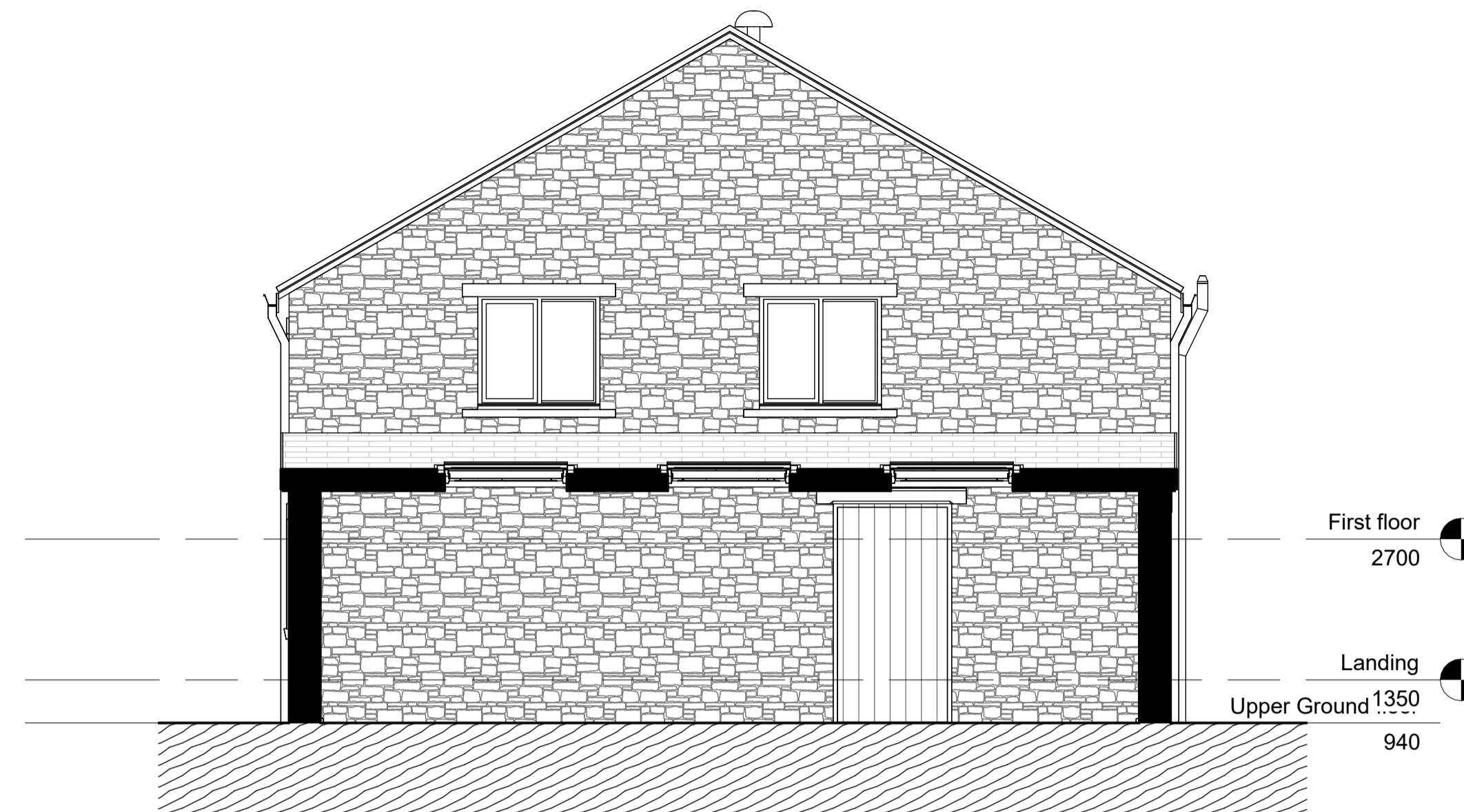
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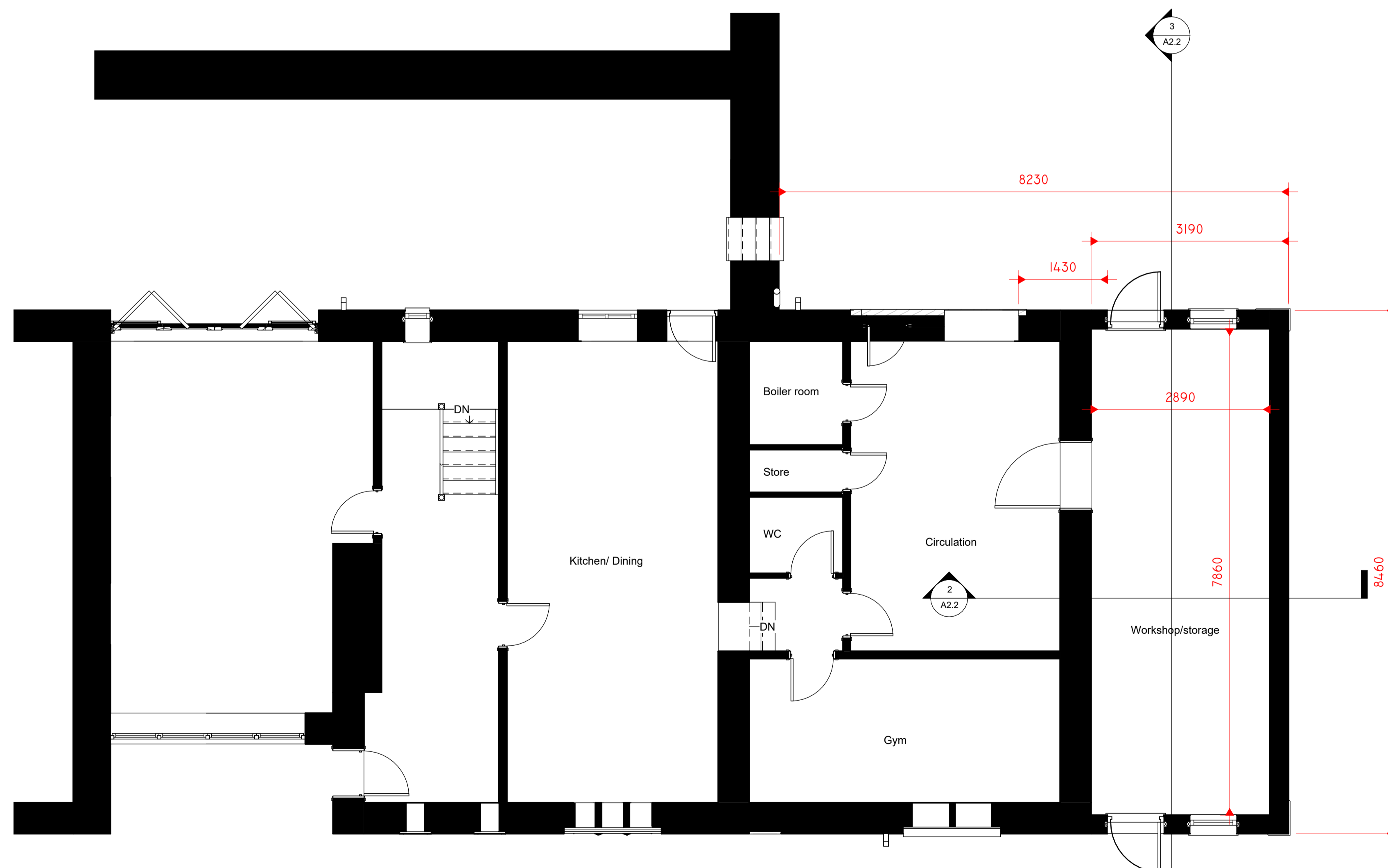
For planning purposes only



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CLIENT: Graham Allmond  
Wiswell Eaves Barn,  
Pendleton Road Wiswell,  
Clitheroe Lancashire,  
BB7 9BZ

PROJECT: Proposed Side Extension and  
Alterations

SHEET: PROPOSED FLOOR PLAN  
AND SECTIONS

Project number PHA/1039

Date 19/11/2025

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Checked by PH

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