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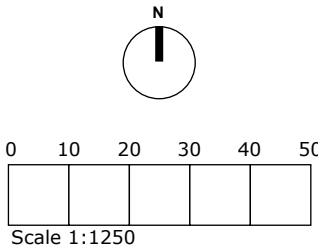
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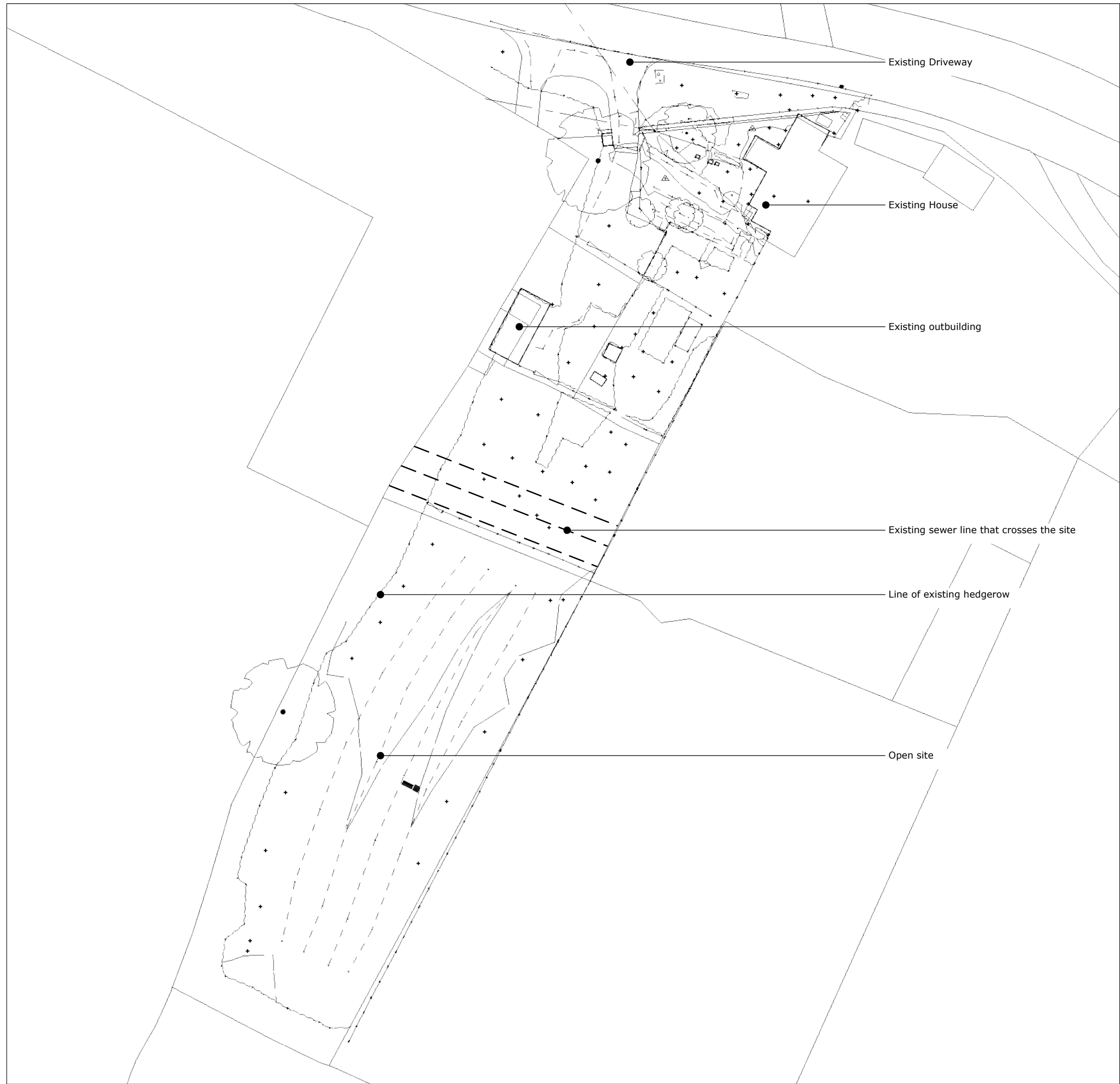
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Alison Pitman and Perry Roche

ARCHITECT: KOTO DESIGN  
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WESTWARD HO!  
NORTH DEVON  
EX38 1AG

SITE:  
Severndale, Oldbury Lane, Thornbury,  
South Gloucestershire, BS35 1RD

DRAWING:  
Site Location Plan

|                     |                               |                |                |
|---------------------|-------------------------------|----------------|----------------|
| SCALE A3:<br>1:1250 | DATE:<br>December 22,<br>2021 | DRAWN:<br>TD   | CHECKED:<br>JL |
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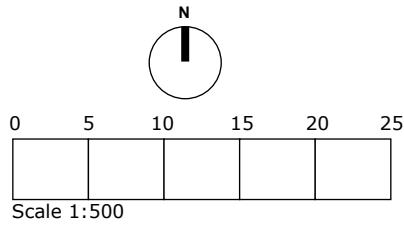
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NORTH DEVON  
EX38 1AG

SITE:  
Severndale, Oldbury Lane, Thornbury,  
South Gloucestershire, BS35 1RD

DRAWING:  
Existing Block Plan

|                    |                               |                |                |
|--------------------|-------------------------------|----------------|----------------|
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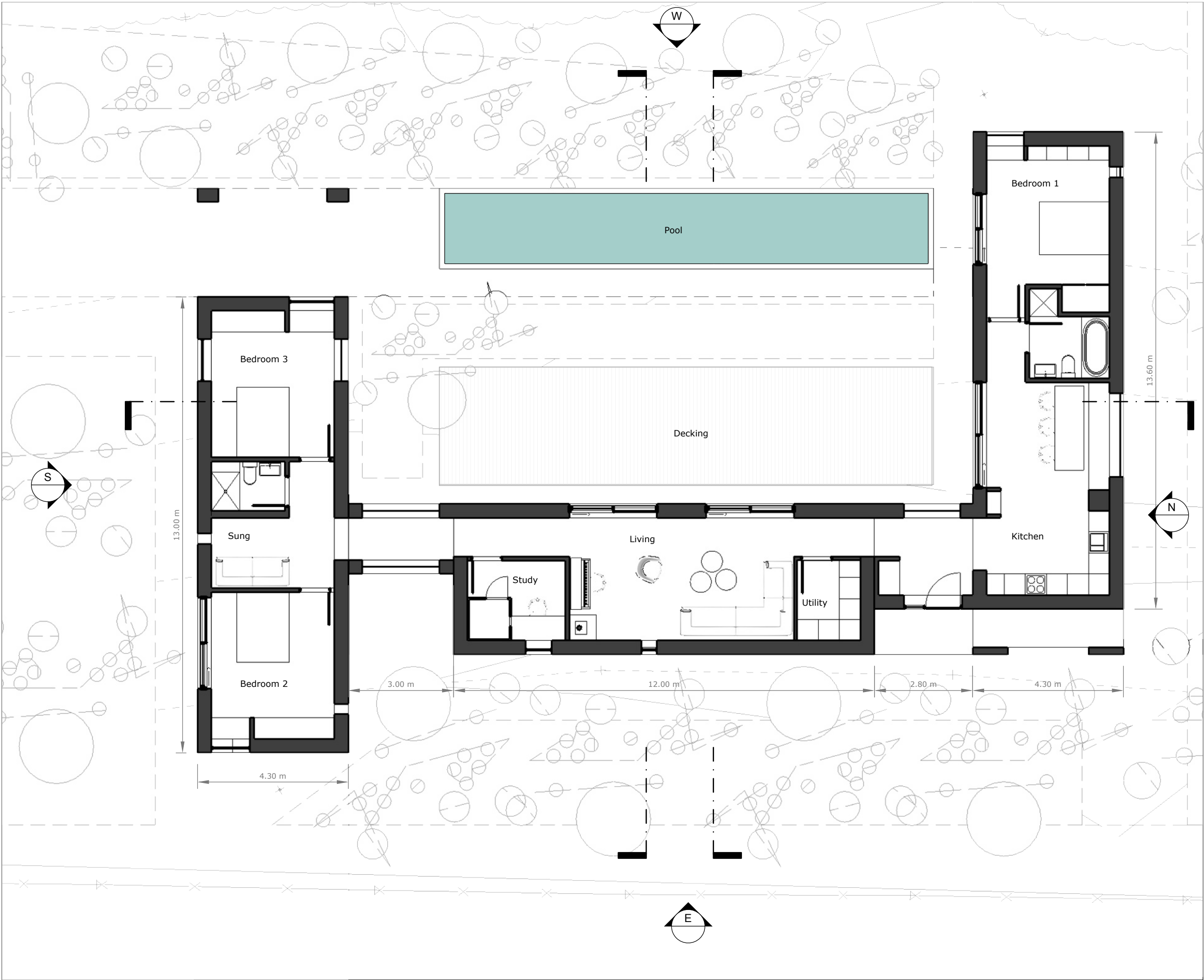
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SITE:  
Severndale, Oldbury Lane, Thornbury,  
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DRAWING:  
Proposed Block Plan

|                    |                               |                |                |
|--------------------|-------------------------------|----------------|----------------|
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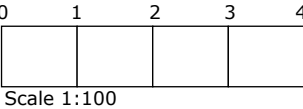
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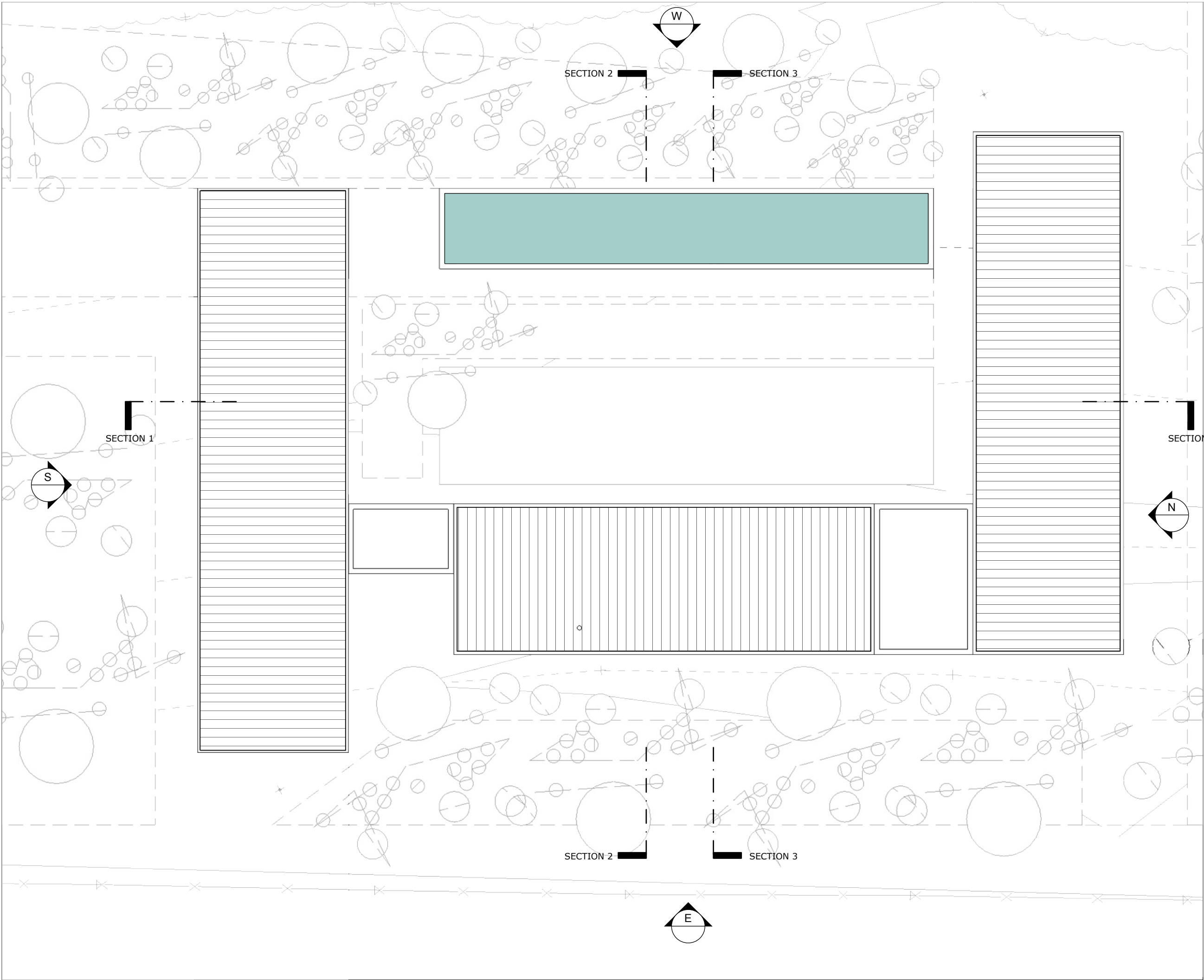
SITE:

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South Gloucestershire, BS35 1RD

DRAWING:

Ground Floor Plan

|                    |                               |                |                |
|--------------------|-------------------------------|----------------|----------------|
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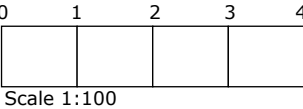
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SITE:

Severndale, Oldbury Lane, Thornbury,  
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DRAWING:

Roof Plan

SCALE A3:

1:100

DATE:

December 22,  
2021

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TD

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JL

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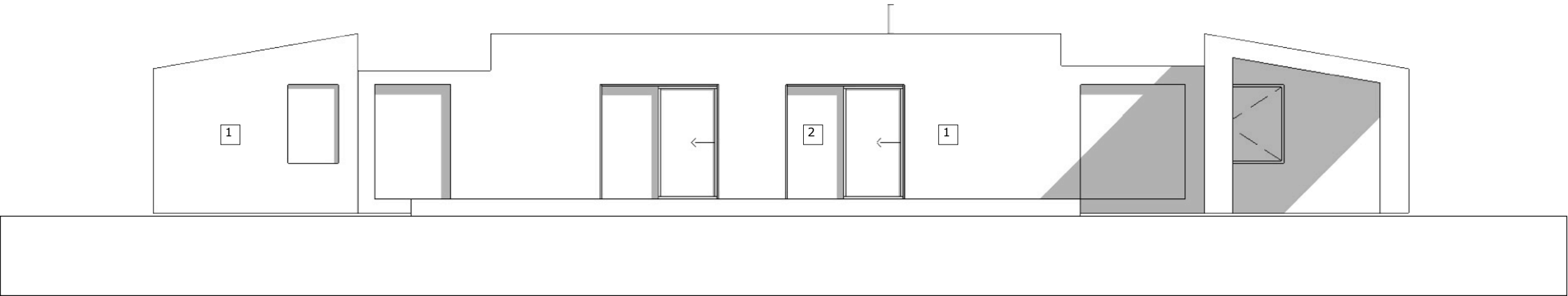
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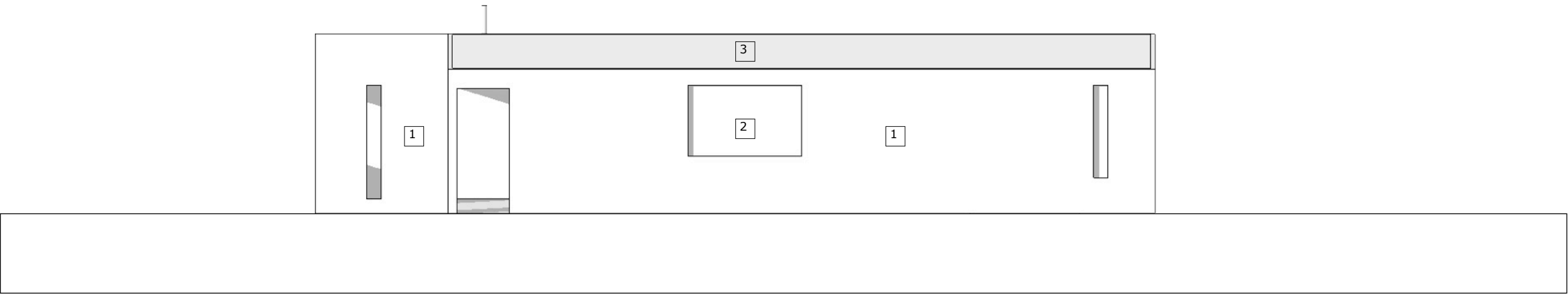
A106-P-005

REVISION:

-



WEST ELEVATION



NORTH ELEVATION

Notes:

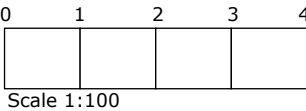
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- MATERIAL KEY
- 1. VERTICAL TIMBER CLADDING
  - 2. ALUMINIUM FRAMED WINDOWS AND DOORS
  - 3. METAL ROOF

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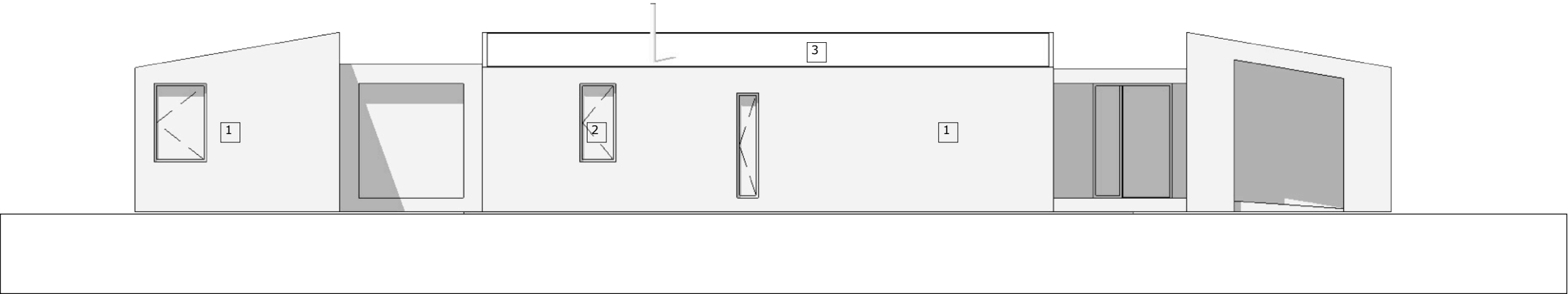
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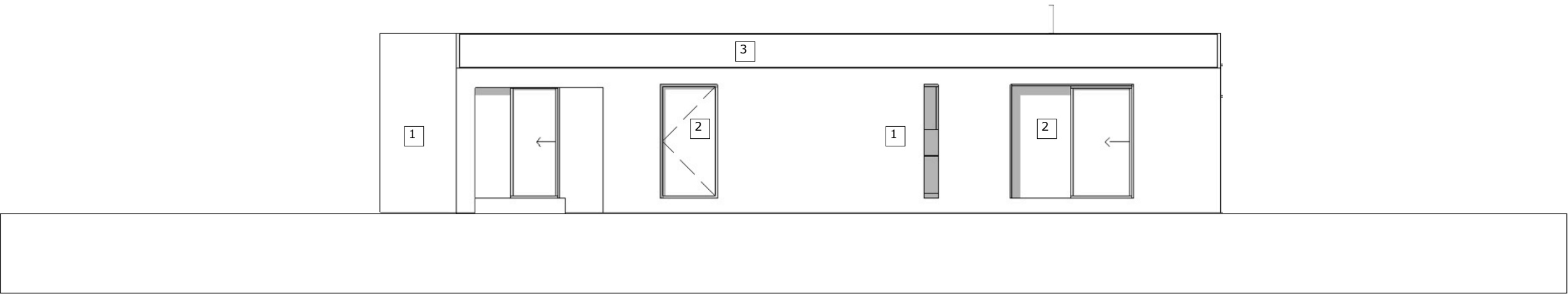
SITE:  
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DRAWING:  
North and West Elevations

|                    |                               |                |                |
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EAST ELEVATION



SOUTH ELEVATION

Notes:

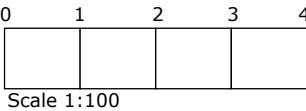
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- MATERIAL KEY
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  - 2. ALUMINIUM FRAMED WINDOWS AND DOORS
  - 3. METAL ROOF

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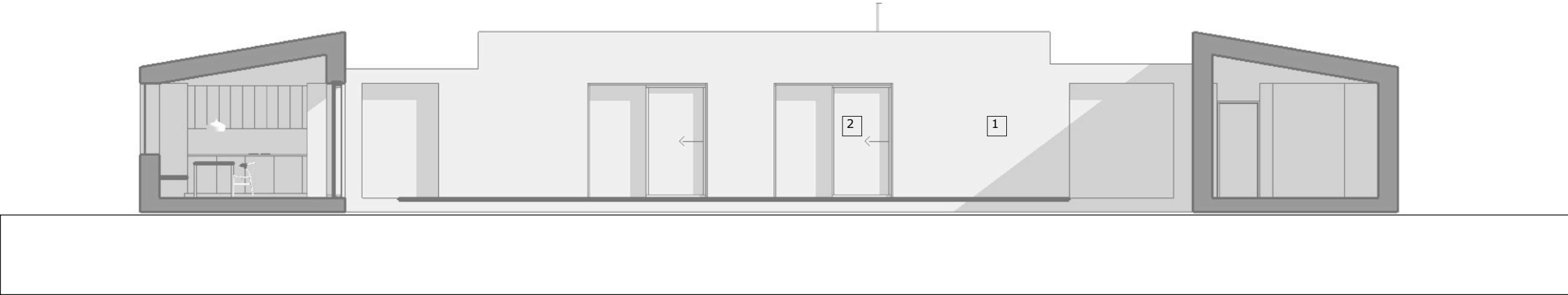
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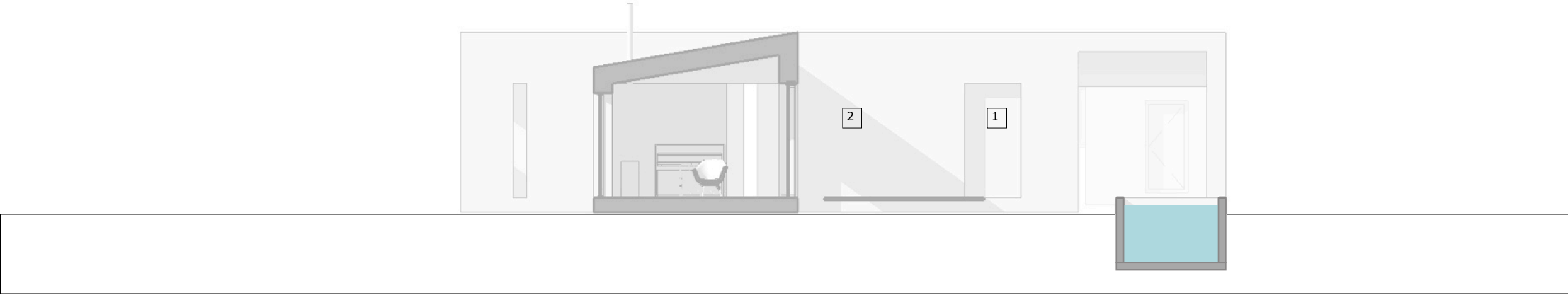
SITE:  
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South Gloucestershire, BS35 1RD

DRAWING:  
South and East Elevations

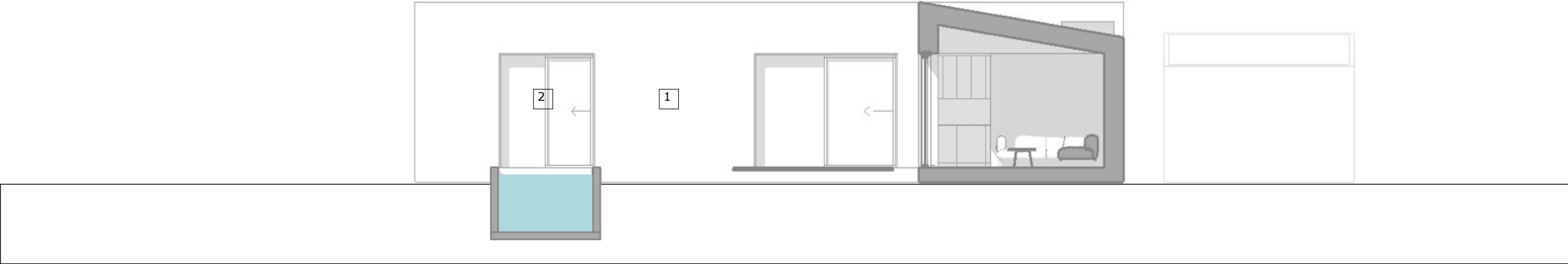
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SECTION 1



SECTION 2



SECTION 3

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01234

Scale 1:100

MATERIAL KEY

1. VERTICAL TIMBER CLADDING

2. ALUMINIUM FRAMED WINDOWS AND DOORS

3. METAL ROOF

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SITE:

Severndale, Oldbury Lane, Thornbury,  
South Gloucestershire, BS35 1RD

DRAWING:

Building Sections

SCALE A3:  
1:100

DATE:  
December 22,  
2021

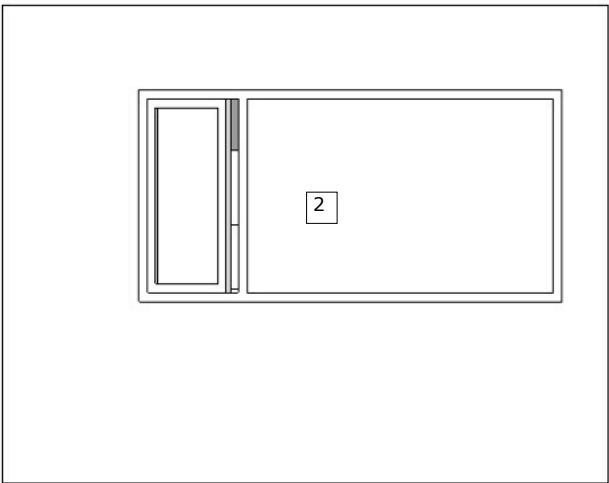
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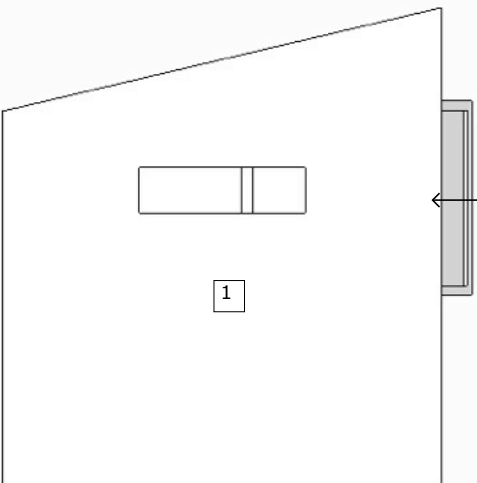
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DRAWING NO:  
A106-P-008

REVISION:  
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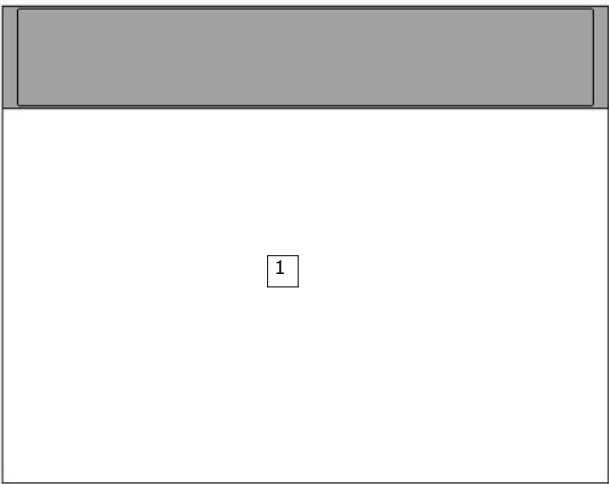


EAST ELEVATION

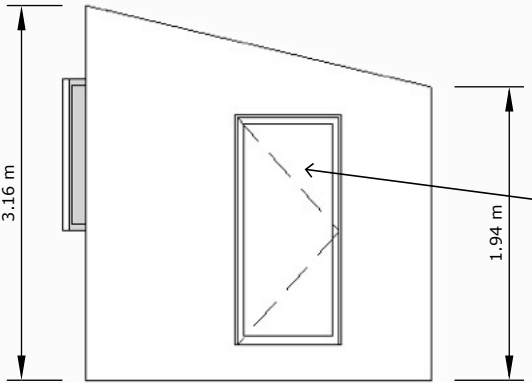


SOUTH ELEVATION

Vertical dark timber cladding

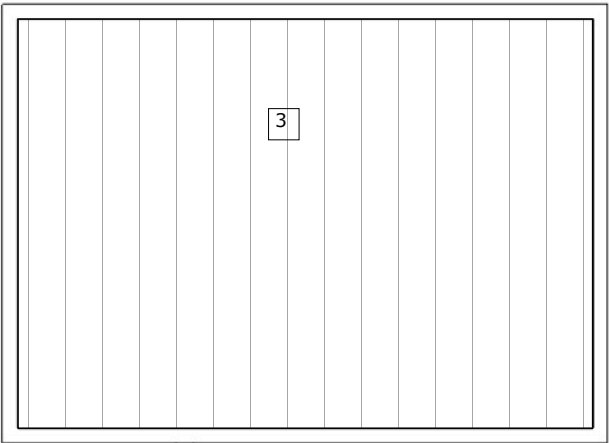


WEST ELEVATION

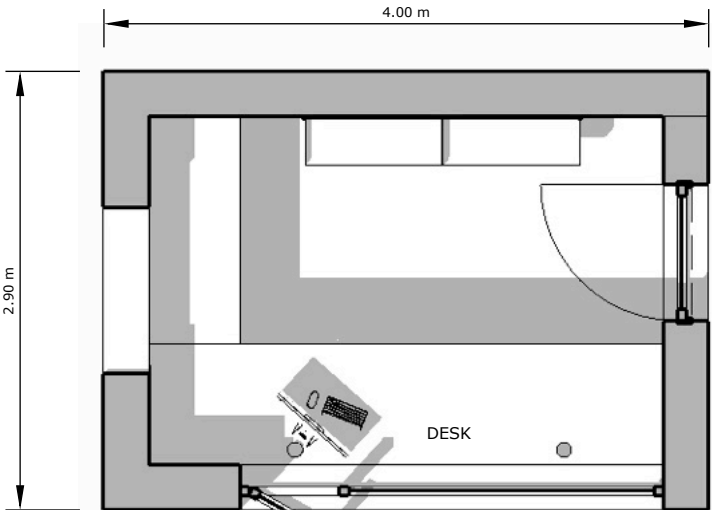


NORTH ELEVATION

Aluminium framed doors and windows



ROOF PLAN

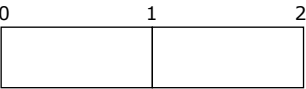


FLOOR PLAN

Notes:

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Scale 1:50

MATERIAL KEY

- 1. VERTICAL TIMBER CLADDING
- 2. ALUMINIUM FRAMED WINDOWS AND DOORS
- 3. METAL ROOF

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NORTH DEVON  
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SITE:  
Severndale, Oldbury Lane, Thornbury,  
South Gloucestershire, BS35 1RD

DRAWING:  
Home Office Plans Elevations

|                   |                               |                |                |
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DESIGN STATEMENT

Introduction

These design proposals have been developed in support of the detailed panning application for a new dwelling on land to the south of the existing property at Severndale, Oldbury Lane, Thornbury, South Gloucestershire, BS35 1RD.

Existing Site

The plot consists of an existing property to the south of Oldbury Lane that borders the highway. The existing house is a semi detached dwelling situated in close proximity to the road to the north of the site. There is a driveway to the west which allows access to the site. To the south there are extensive flat lands bordered by mature hedgerows to the west and south and a simple fence to the east.

The present owners are looking to create a new family home for themselves on the southern part of the site. The intentions is to create a three bed dwelling with a strong connection to the landscape and gardens.

Design Principles

The design is intended to to a low impact vernacular response to the wider landscape, the proposals are very generous in terms of the amount of gardens that are provided and a modest single storey house is being proposed that runs through the landscape.

Key Design elements:

- A disbursed home where every space has a connection with the landscape.
- Single storey with simple pitched roofs which references small agricultural buildings that dot the wider landscape.
- The building sits low in comparison to the mature hedgerows that surround the site.
- The materiality of the building is dominated by dark timber board arranged vertically. This will blend with the mature planting and further disguise the form of the building.

Visual Impact

The home is a broken form rather than a monolithic block, this will allow it to appear smaller when viewed from a number of angles. Generally the building will only be partially visible due to the mature hedgerows.

Trees

There are no existing tree that are expected to be impacted by the proposals.

Ecology

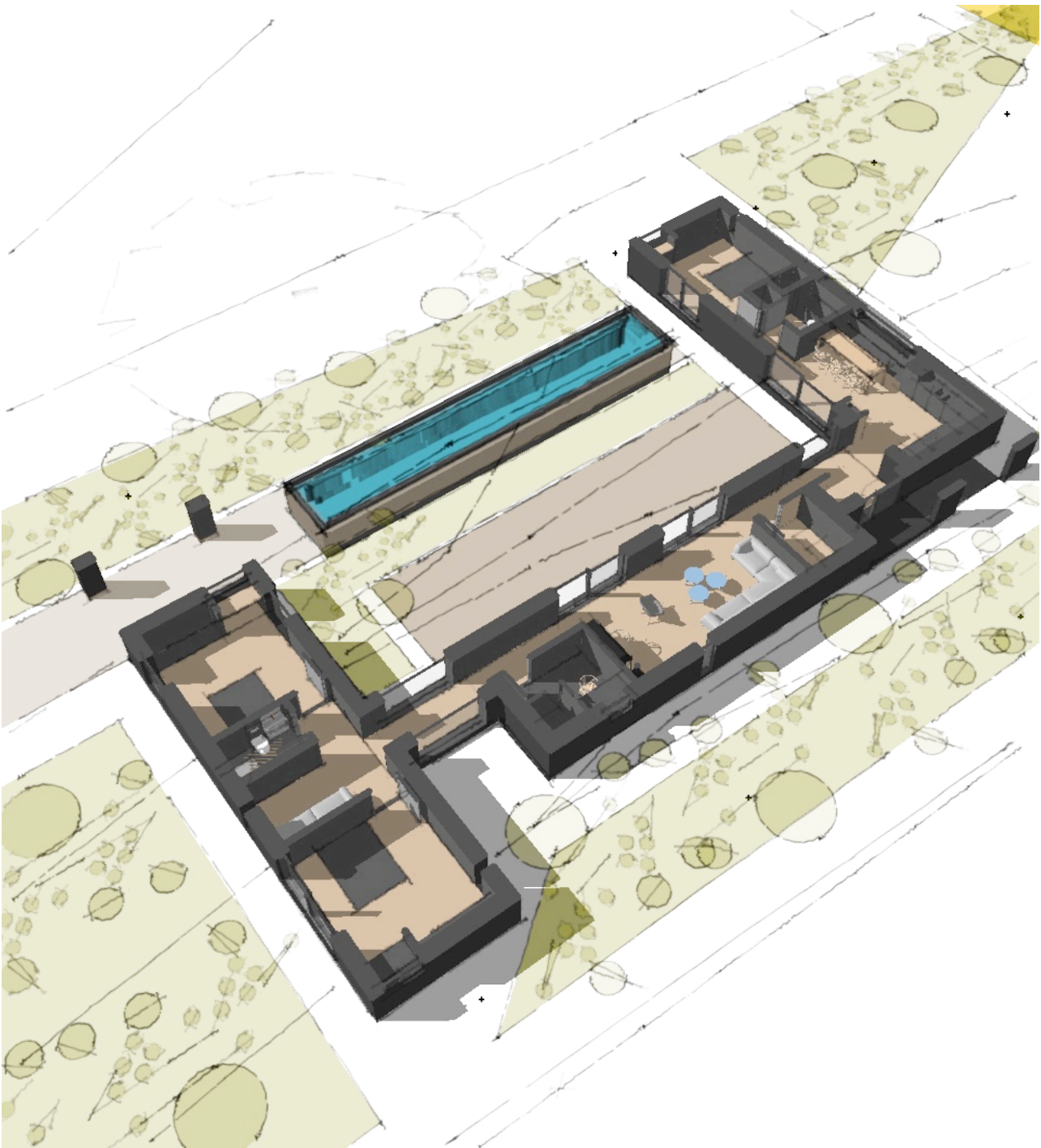
A Preliminary Ecology Assessment has been conducted - refer to separate report for details.

Access

The building has good universal access as the site is largely flat and the building is on a single level. The building will sit slightly above the present ground level and will be accessible via a gentle ramp. A transport assessment has been undertaken as the existing driveway connects to a main road.

Flooding

The Environment agency flood maps show that the site does not sit within an existing flood zone.



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DESIGN SUMMARY

The designs have been developed to provide a modern home which is a subtle and modest addition to the wider landscape.  
The proposals have been developed with a strong emphasis on climate change and sustainability, the structure is proposed to be constructed using offsite techniques and British grown timber. All heating systems are electric based which will future proof the home for grid decarbonisation. The building takes a fabric first approach to energy efficiency with low U Values and high quality glazing systems.  
The design approach is one that has been led by landscape and ecology, the owners are passionate gardeners and see this home as an ongoing development of a high quality house set within a garden that will develop over the coming years.

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EX38 1AG

SITE:  
Severndale, Oldbury Lane, Thornbury,  
South Gloucestershire, BS35 1RD

DRAWING:  
Design Statement

|                 |                               |                |                |
|-----------------|-------------------------------|----------------|----------------|
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SUSTAINABILITY STATEMENT

Sustainability

The sustainability approach is primarily focussed on understanding the amount of carbon dioxide emitted during the lifespan of the building. This is broken down into the following two categories:

Operational Carbon

The design proposals employ a fabric first approach to energy efficiency. Combining exceptional air tightness, mechanical ventilation and recycled natural insulation ensures minimal energy is required during the whole life cycle. This offers the potential to attain industry leading performance standards, to suit the client’s sustainability aspirations, whilst employing natural, sustainable local resources.

Airtightness is intrinsic to the system’s details, the use of off site construction ensures that a target airtightness of 1 air change per hour is much less prone to the challenges of traditional on-site construction processes.

All heating systems are electric to avoid any systems that will burn fossil fuels at source and future-proofs the buildings for grid decarbonisation. The inclusion of solar panels will be assessed during the Stage 4 design process.

Embodied Carbon

Timber is one of the most sustainable construction materials on the planet. Our ethos is to deliver innovative low carbon build solutions. Using off site modern methods of construction and local materials, we are exploring ways to reduce carbon emissions associated with construction to get to our aim of delivering net zero buildings.

This proposal focuses primarily on timber construction with wood sourced from British FSC sustainable forests. The amount of carbon that is locked up or sequestered by growing trees is effectively carbon dioxide which has been removed from the atmosphere and forms the structure and insulation. When the amount of carbon that is sequestered in the building is compared to the amount of carbon that is generated from the activities associated with the construction of the building like processing of material, transport heating and lighting of facilities we can tell if the building has a net positive or negative impact.

Another key point to note is the end of life of each building and how construction can be considered as part of a circular economy. Timber buildings can be dismantled with large elements reused or recycled. It is important to note that how the timber is treated at the end of its life has an impact on the overall amount of embodied carbon. If it is burnt as fuel or composted then the sequestered carbon would be released into the atmosphere. The measurement and certification of embodied carbon is at an early stage of development across the construction industry.

As part of the innovative design development we have collaborated with Woods of Wales (WoW Systems) who are one of the UK’s most pioneering timber specialists.

TY UNNOS SYSTEM

As part of the innovative design development we have collaborated with Woods of Wales (WoW Systems) who are one of the UK’s most pioneering timber specialists. Based on the award winning Ty Unnos research and development project, Koto in collaboration with WoW Systems manufacture, supply and construct high performance modular and prefabricated buildings combining home-grown and Welsh softwood with locally sourced, natural and recycled products.

Suitable for even the most challenging of sites, and fully adaptable to any design or performance requirements, the system provides a uniquely British rapid construction solution for high quality, sustainable and affordable buildings. Although the systems employed by WoW Systems offer great opportunity for cost effective standardisation and volumetric construction, the system components are highly flexible and can be tailored to all designs and building types. The company have delivered a portfolio of award winning buildings over the last 10 years.

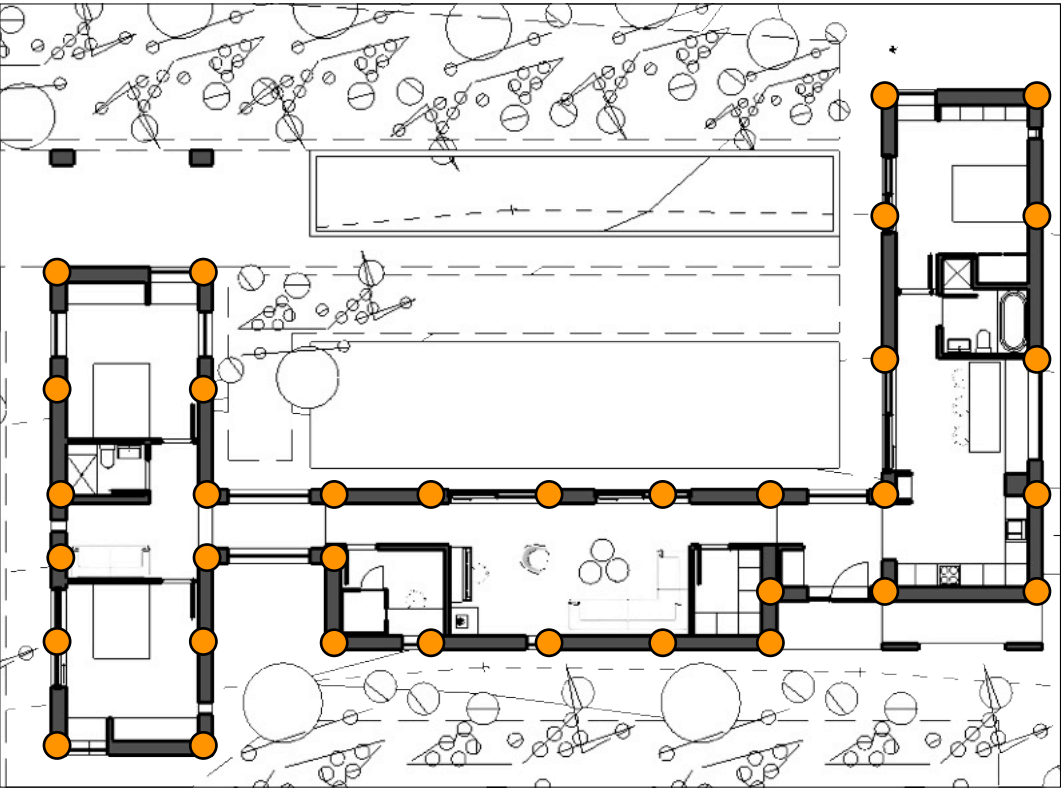
Wales has nearly 80 thousand hectares of Sitka Spruce, accounting for approximately 70% of the total conifer cover. In its native range of North America, Sitka spruce grows slowly to a great age. British spruce however grows much faster producing timber of lower density with heavier branching and larger knots. It is processed for a number of markets including fencing, wood fuel, chipboard and pallets. The most important commodity produced is C16 graded carcassing timber, the lowest strength class in general use. It is seldom used in modern timber frame construction, with manufacturers preferring imported softwoods due to their greater stability and superior strength.

However the innovative research and development completed by WOW allows this highly sustainable material to be utilised as a primary building resource. This approach of using home grown timber dramatically reduces the carbon footprint of the construction as typically high quality timbers are required to be imported from overseas. Also the reliance on timber for the primary structure means that carbon heavy materials like steel are almost entirely removed from the construction process.

FOUNDATION PROPOSAL

Touching the Earth Lightly

The foundation proposal is to use helical screw piles as they have a low carbon footprint, are simple to install and can be removed after the lifetime of the building, returning the ground to its original state. Examples of the preliminary structural proposals are shown here.



Structural building sections



Example of the system used for portal frames.



Volumetric housing construction.



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SITE:  
  
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DRAWING:  
  
Sustainability Statement

|                 |                               |              |                |
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DESIGN PROPOSALS

BUILDING LOCATION

The existing property is located to the south side of Oldbury Lane and from a small road frontage extends to 26 metres east to west. The depth of the site is much greater extending to 135m.

The images on this page have been compiled to illustrate how visible the site is from the public highway. The images are from google street view which gives a higher than normal camera position. The approximate building locations is shown in red in each image.

What's clear from these images its that the impact of the proposals have a minimal visual impact from the public highways, The mature planting along the western boundary disguises the new dwelling and more planting that will be added over time will mimes its impact from the east.

The fact that the building is only a single storey will also help to mitigate its impact and its broken foam helps to to appear as a series of small buildings with an agricultural vernacular apearence.



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www.kotodesign.co.uk

CLIENT:  
Alison Pitman and Perry Roche

ARCHITECT: KOTO DESIGN  
1 FOSKETH TERRACE  
WESTWARD HOL  
NORTH DEVON  
EX38 1AG

SITE:  
Severndale, Oldbury Lane, Thornbury,  
South Gloucestershire, BS35 1RD

DRAWING:  
Visibility Assessment

|                 |                               |                |                |
|-----------------|-------------------------------|----------------|----------------|
| SCALE A3:<br>NA | DATE:<br>December 22,<br>2021 | DRAWN:<br>TD   | CHECKED:<br>JL |
| JOB NO:<br>A083 | DRAWING NO:<br>A106-P-012     | REVISION:<br>- |                |



Notes:

PROGRESS DRAWING

This drawing is not intended to be used for contract pricing or fabrication purposes.

This drawing is the property of Koto Design Limited.

All works to be carried out in accordance with current building regulations.

Any discrepancies to be reported to the Architect

FOR COMMENT



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DRAWING:  
SITE OVERVIEW VISUAL

|                 |                               |                |                |
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| SCALE A3:<br>NA | DATE:<br>December 22,<br>2021 | DRAWN:<br>TD   | CHECKED:<br>JL |
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