## Proposed North Elevation - House 1

1 : 50

## Proposed West Elevation - House 1

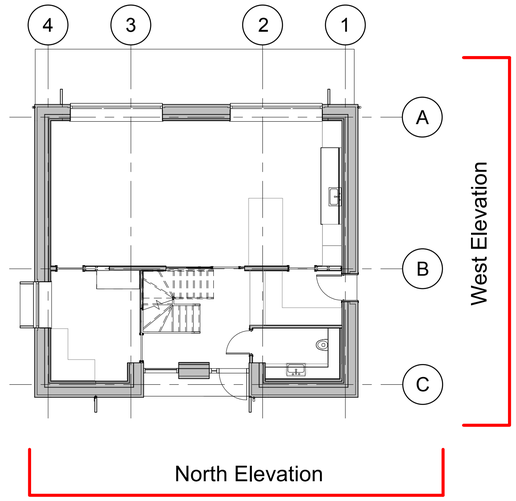
1 : 50

## Key Plan

1:100

PROJECT NORTH ARROWS

HOUSE 1




Notes:

The following should be read in conjunction with all relevant drawings, documents, and the Kiss House System Manual Compliance report.

**Part A- Structure**

For details of the structural design, refer to structural drawings within the systems manual 20057-BWT-ZZ-ZZ-RP-Z-0003 & project specific structural calculations & drawings.

**Part B- Fire & Smoke Detection**

**Fire Detection and Alarm Systems:** House to be fitted with a suitable fire detection and alarm system, minimum Grade D2 Category LD3 standard, in accordance with the relevant recommendations of BS 5839-6.

Smoke and heat alarms must be mains operated and conform to BS EN 14604 & BS 5446-2 and be fitted with a standby power supply such as a battery.

**Means of Escape:**
All ground floor rooms/ spaces all either open directly onto a hall leading to the final exit. The main kitchen/ living/ dining space also provides final exit to the rear of the property.

At the upper floor, as the house only has a single staircase, all bedrooms will have a suitable emergency escape window which complies with the requirements described in 2.10 of Approved Document B Volume 1.

**Internal Fire Spread (Linings):**
The KH system proposes a wall cassette which is separated into 3 parts, the cladding zone, the main cassette, and the decorative lining. The chosen performance lining to the main cassette is a Fermacell board meeting the required class C-s3, d2.

Valchromat Fire Retardant MDF/ Medite Premier is used as a decorative lining meeting class C-s3, d2.
Any other feature decorative linings chosen must also meet class C-s3, d2 unless the area in which it is used is equivalent to half the room's floor area, up to a maximum of 20m2 of wall lining.

All ceiling linings selected in the system meet class C-s3, d2 for spread of flame.

Rooflight selected to meet minimum class C-s3,D2.

**Internal Fire Spread (Structure):**
The standard KH system has provided for fire protection for 30 minutes in line with Appendix B Tables B3 & B4 of Approved Document B. This rating is achieved via the build ups of the wall and floor cassettes (See relevant interface details), and via the char rate of the structural timber sections used. Relevant calculations are provided in Structural Calculations Document XXXXXX

Solid timber and ply box columns are fixed to a GRP ground floor slab. GRP is a novel material, and as such it has been challenging to assess the detail to the base of the structural elements. Details have been developed to be as robust as possible, and a fire retardant resin is recommended. Details show thermal breaks and fire boarding, albeit in an untested arrangement. Calculations provided are based on steel members encased in fireboarding.

As there is no precedent for this particular detail there are limitations without involving fire engineers and tests. Kiss House or should discuss details the GRP manufacturer (or engage a GRP expert if recommended by the manufacturer), the insurer, and with building control.

External walls are fully filled with A1 class mineral wool and therefore no 'cavity' conditions exist.

**External Fire Spread:**
All external walls use non combustable mineral wool insulation products. Facade products selected must meet should adequately resist the spread of flame and be Class B-s3, d2 or better when within 1m from a relevant boundary. Timber claddings should be at least 9mm thick.

**Resisting fire spread from one building to another:**
Unprotected areas: Both houses are more than 1m any boundaries or other buildings. Unprotected areas meet the limits set out in diagram 11.7 of approved document B.

**Part C- Site preparation and resistance to contaminants and moisture**
Surveys must be carried out prior to commencement of construction to ensure land is not contaminated.

The ground floor is made up of a GRP cassette with a ventilated cavity, supporting the loadbearing elements. The external floor cassette sits 150mm above ground level, bottom of wall cassettes is 150mm above external ground level, gap filled with semi rigid insulation.

Approved Document C does not provide specific guidance for GRP floors as it does with more common construction materials, therefore this should be checked with relevant approved inspectors & warranty providers.

All external timber elements are 150mm above external ground level. A breather membrane is located on the outside of the wall cassette and is lapped with the floor cassette DPM by 150mm.

External wall cassettes are fully filled with insulationand therefore there is no cavity.

Thresholds are designed to be accessible in line with part M4(2) and therefore threshold drains are proposed.

Roof construction to meet section 6 of approved document C. For details see relevant details and manufacturers information.

**Part E- Resistance to passage of Sound**
Internal walls between bedrooms and ensuites, and intermediate floor to meet minimum 40db airborne sound reduction as per Part E table 0.2. Refer to drawing 20057-BWT-A1-XX-DR-A-GR-0035 for build ups.

All bedroom and bathroom doors to be FD30 type.

SVP's to be insulated internally, have rodding eyes, and be suitably enclosed, with access panels.

**Part F- Ventilation**
Kitchen to be fitted with suitable cooker hood extract adjacent to the hob.

An MVHR system is provided for ventilation. The MVHR provides tempered outdoor fresh air to living rooms and bedrooms. Extract air is removed from the kitchen, utility cupboard and wet rooms providing a balanced ventilation system. This system minimises the need for window openings.

The project aims to reach Passivhaus classic as a minimum, and therefore will meet the criteria set by Passivhaus in terms of airflow rates.

For full calculations see M&E calculations & specifications: 20057-BWT-M1-ZZ-CA-M-0001

**Part G- Sanitation**

**Water efficiency-**
We can confirm that the following water efficiency measures are proposed to ensure that the consumption of water does not exceed 125 litres/person/day:

- Appliances installed to be of A - A*** energy rating.
- Dual flush cisterns will be installed.
- Water saving taps and showerheads will be used.

for further information see M&E calculations: 20057-BWT-M1-ZZ-CA-M-0001

**Central Heating Hot Water and Cold Water**
Hot water will be provided via a high-performance Air Source Heat Pump (ASHP) located externally at ground level. Low Temperature Hot Water (LTHW) will be distributed to a hot water cylinder located within the Utility Cupboard, serving the heating for domestic hot water. The heating system will be served by the same ASHP.

The hot water storage system to be designed and installed in accordance with BS 6700:2006/ BS EN 12897:2006 on an individual project basis..

**Internal Plumbing**
All sanitary fittings to comply with British Standards and satisfy Approved Document G.

**Part H- Drainage & Waste Disposal:**

**Sanitary Pipework**
Sanitary pipework will comply with trap sizing, branch lengths and connections and stack guidance provided in Approved Document H.

**Rainwater**
External rainwater goods are proposed. See drainage & Services drawing for details of sizes. TO BE COMPLETED WITH SITE INFORMATION.

Threshold drains are intended at the entrance of a Kiss House to allow for level threshold. These should be sized at a project level.
Surface water Drainage- TO BE COMPLETED WITH SITE INFORMATION

**Foul Sewage**
TO BE COMPLETED WITH SITE INFORMATION

SVP's are located in the ensuite and bathroom. SVP's to be insulated internally, have rodding eyes and be suitably enclosed with access panels.

**Solid Waste Storage**
TO BE COMPLETED WITH SITE INFORMATION

**Part J-Heat producing Applicances**

The same ASHP that provides domestic hot water to the property, will also provide heating to the property. This will be located externally at ground level. Low Temperature Hot Water (LTHW) is distributed to a hot water cylinder located within the Utility Cupboard, serving the heated water for domestic hot water and the heating system.

**Part K- Protection from falling, collision & Impact**

**Stairs**
The proposed stair complies with the outline for a Private Stair as outlined in Table 1.1 of Approved document K. Handrails must be provided with the top of the rail being 900-1000mm from the pitch line. Handrail design to meet diagram 1.13 in approved document K.
The guarding of stairs must ensure that a 100mm sphere cannot pass through any openings, and prevent any child from climbing.

Glazing below 800mm to satisfy Class 3 of BS EN 12600 or Class C of BS 6206. Front door with side pane to satisfy the requirements of Class 2 BS EN 12600 or Class B BS 6206.

**Part L- Conservation of fuel & power**

The Kiss House system aims to go above and beyond the requirements of Approved document L, meeting Passivhaus Classic as a minimum. Key elements aim to meet the following U values:

- Wall - 0.111 W/(m²K)
- Pitched Roof - 0.098 W/(m²K)
- Floors - 0.103 W/(m²K)

**Part M- Access & Facilities for disabled people**

Gloucester Road will meet the requirement M4(2): Accessible and adaptable dwellings.

**Approach to the Dwelling**
TO BE COMPLETED WITH SITE INFORMATION

**Private Entrances**
All doors to have level thresholds. Rear door to have a level threshold to decking. Front doors to allow for a level landing directly outside as the principal entrance. See interface details for further information.

**Circulation areas and Internal Doorways**
Corridor widths and door sizes meet part M4(2). See general arrangement drawings for details.

**Private Stairs and Changes of Level within the Dwelling**
The ground floor is step free, providing level access to living kitchen and eating areas.

The stair is greater than 850mm wide and meets the provision of part K for private stairs.

**Bedrooms**
All bedrooms meet the provisions set out in paragraph 2.25 of Part M.

**Sanitary Facilities**
General provisions- Internal wall partitions and boxing ensure that they can support grab rails and other adaptations.
A WC is provided at ground floor that also has the potential to be converted to contain a level access shower.

**Services and Controls**

All switches and sockets and controls are located between 450mm-1200mm above floor level.
Handles to windows are located between 450-1400mm.
Consumer unit is mounted within the utility cupboard between 1250-1450mm. For Utility Cuboard drawing see: 20057-BWT-A1-XX-SK-A-GR-0007

**Part P- Electrical Safety**

Electrical installations will be designed and installed in accordance with BS 7671:2008.

Client:

kiss house.

Hazard Identification Legend

| Hazard Identification (if none state 'None relevant') | Control and Mitigation Measures |
|---|---|
| Refer to Notes | Refer to Notes |

Note:

Hazards listed above are only those considered significant risks and:

a) not likely to be obvious to a competent contractor or other designers;
b) unusual; or
c) likely to be difficult to manage effectively

Notes:

Drawings are WIP only and are not intended for construction at this stage.

Due to the use of novel materials within the construction system such as GRP, further guidance should be sought from building control, manufactuers and any warnerty providers and insurers. Bryden Wood has endeavoured to produce robust details, but suitable testing should be undertaken to ensure full compliance, and fire safety prior to construction.

Wall thickness nominally shown at 500mm thick. Initial PHPP investigation indicates a thickness of 525mm will be required at a minimum.

PHPP modelling currently indicates a borderline pass for Passivhaus classic. This will need to be confirmed by a Passivhaus accredited certifier. Further minor adjustment of elements may be required. Passivhaus plus would be achievable with the addition of building mounted PV subject to planning constraints.

KH to indicate if this should be added internally or externally. Further PHPP modelling/ final assessment by Passivhaus to inform this.

| REV | DATE | DESCRIPTION | DWN CHK APP |
|---|---|---|---|
| P04 | 2024-04-24 | For Planning | |
| | | | |
| | | | |

Do not scale from this drawing. All dimensions to be verified on site prior to the commencement of any work or the production of any shop drawings. All discrepancies to be reported to Bryden Wood Technology Ltd. This drawing is to be read in conjunction with all related Consultant 's drawings and any other relevant information. This drawing is the copyright of Bryden Wood Technology Ltd.

Key:

Project:

Kiss House - Gloucester Road

Drawing Title:

Elevations Sheet 1 of 2
North & West Elevation
House 1

Drawing Number:

20057-BWT-A1-XX-DR-A-GR-0007

| Scale: | Paper Size: | Status: | Revision: |
|---|---|---|---|
| 1:50 | A1 | S3 | P04 |

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