

16 Strawberry Hill Road,
Twickenham TW1 4PT

Planning Fire Safety Strategy



APEX
STRATEGIES

Control Sheet

Client Name:	Mr Allan Vaz
Project Title:	16 Strawberry Hill Road, Twickenham TW1 4PT
Report Title:	Planning Fire Safety Strategy
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The Contractor must comply with relevant building control instructions and Directives.

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Appendix A: Proposed Site Layouts and Elevations

1. Introduction

This Planning Fire Safety Strategy (PFSS) has been prepared by Apex Strategies Ltd. on behalf of Mr Allan Vaz in relation to development proposals at 16 Strawberry Hill Road, Twickenham TW1 4PT which comprise the change the use of the property from student accommodation to a single family dwellinghouse.

This PFSS has been prepared to satisfy the local authority's validation requirements and to address London Plan (2021) Policy D12(a) 'Fire Safety', which states;

"In the interests of fire safety and to ensure the safety of all building users, all development proposals must achieve the highest standards of fire safety and ensure that they:

1. *identify suitably positioned unobstructed outside space:*
 - a. *for fire appliances to be positioned on*
 - b. *appropriate for use as an evacuation assembly point*
2. *are designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures*
3. *are constructed in an appropriate way to minimise the risk of fire spread*
4. *provide suitable and convenient means of escape, and associated evacuation strategy for all building users*
5. *develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in*
6. *provide suitable access and equipment for firefighting which is appropriate for the size and use of the development."*

London Plan paragraph 3.12.2 notes that;

"The matter of fire safety compliance is covered by Part B of the Building Regulations. However, to ensure that development proposals achieve the highest standards of fire safety, reducing risk to life, minimising the risk of fire spread, and providing suitable and convenient means of escape which all building users can have confidence in, applicants should consider issues of fire safety before building control application stage, taking into account the diversity of and likely behaviour of the population as a whole."

London Plan Policy D12(A) Fire Safety guidance states that;

"Where the applicant considers parts of or the whole policy do not apply, this should be justified in a Reasonable Exception Statement (RES)."

The aim of this document is therefore to demonstrate the relevant fire safety aspects of the proposed development design to date and provide commentary on where the policy does and does not apply.

This document does not constitute the detailed fire strategy under the Building Regulations which will be developed as the scheme progresses.

This PFSS is presented in a format which responds to the listed criteria of London Plan Policy D12(A).

The development provides residential accommodation, as such, the proposals have been considered against the requirements set out within The Building Regulations (2010) Approved Document B: Volume 1 - 2019 edition incorporating 2020 and 2022 amendments; hereafter referred to as '**ADB1**'.

This Strategy has been informed by the layouts and elevations included at **Appendix A**.

This Planning Fire Safety Strategy has been prepared by Brett Littlewood, who is qualified with a HND in Construction and the Built Environment (Civil Engineering), a higher level apprenticeship in Construction Management, has 11+ years experience as a consulting Highways Engineer and is a Member of the Institute of Highways Engineers (MIHE). The author's qualifications and experience are considered to be commensurate with the size, scope and complexity of the development.

2. Planning Fire Safety Strategy

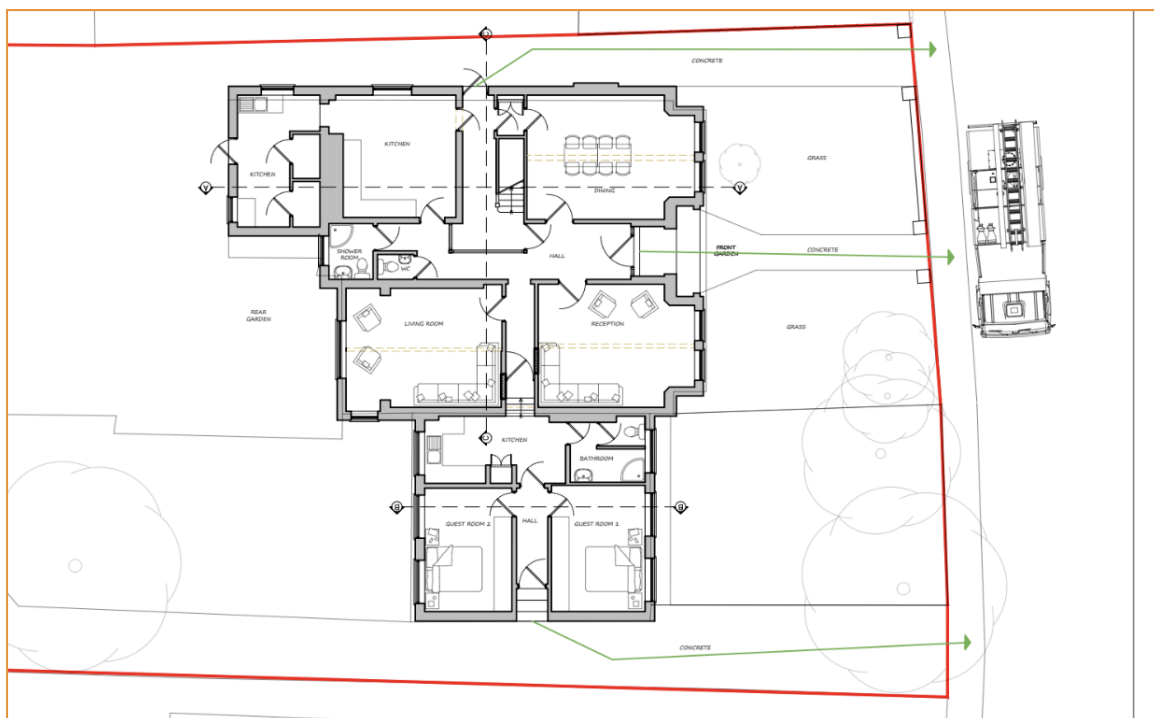
Criteria 1a - Identify suitably positioned unobstructed outside space for fire appliances to be positioned on

ADB1 [13.1] states that: *For dwellinghouses, access for a pumping appliance should be provided to within 45m of all points inside the dwellinghouse.*

London Fire Brigade Guidance Note 29 (GN29) 'Access for Fire Appliances' recommends that the minimum width of road between kerbs to provide access for a pumping appliance should be 3.7m, and that access roads for pumping appliances should be provided with 6m working area(s) at appropriate locations where appliances are to be positioned and used around the building.

However, the Association of Chief Fire Officers provided the following clarification in Manual for Streets in relation to access for fire service vehicles: *A 3.7m carriageway width (kerb to kerb) is required for operating space at the scene of a fire. Simply to reach a fire, the access route could be reduced to 2.75m over short distances.*

Strawberry Hill Road, onto which the site has direct frontage, has a relatively constant carriageway width of around 7.5m. However, unmarked on-street parking occurs in places on both sides of the road which reduces the effective width in places to around 3.5m - 4m. Along the site frontage itself, a dropped kerb vehicle crossover is present (which extends across the access to 14 Strawberry Hill Road), therefore, the area in immediate proximity to the site is likely to remain free from on-street parking and would allow a service vehicle to station itself within 45m of all parts of the dwelling. This is illustrated on the proposed block plan, as extracted below.



Suitable unobstructed space for the stationing of a fire appliance is available therefore Criteria 1a is satisfied.

Criteria 1b - Identify suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point

It is not necessary to formally designate an evacuation assembly point for individual dwellinghouses.

Nevertheless, in principle, assembly points should be located sufficiently far from the premises to minimise interference with the fire and rescue service or danger from falling debris, but should be accessible and not so far away as to discourage people from assembling.

It is considered that in the event of a fire, evacuation assembly could be accommodated either within the large rear garden area, or within the footway along Strawberry Hill Road at an appropriate distance from the building, and in a location which minimises interference with the fire and rescue service.

Suitable unobstructed space for evacuation is available from the development thereby satisfying Criteria 1b.

Criteria 2 - Designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures

Fire Detection and Alarm:

An automatic detection and alarm system in a building provides an effective means to identify a fire scenario in the early stages of fire growth and to notify building occupants automatically of the fire scenario with a clear message or sound.

All dwellings should have a fire detection and alarm system in accordance with the relevant recommendations of BS 5839-6. (ADB1 - 1.1) For the dwelling in question, the following system requirements are recommended:

- **LD2 (Additional Protection):** A system incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all specified rooms or areas that present a high fire risk to occupants, including a heat alarm in any kitchen and a smoke alarm in principle habitable room(s).
- **Grade D1:** A system of one or more mains powered detectors, each with a tamper proof standby supply consisting of a battery or batteries.

This setup provides a reliable and comprehensive level of protection, ensuring early detection in critical areas and helping to safeguard the occupants.

Passive fire safety:

Passive fire safety measures are built-in structural and design features that aim to contain fires and slow their spread without human intervention or mechanical systems. These measures include fire-resistant walls, floors, and doors, which compartmentalise buildings to prevent the spread of fire and smoke between different areas. See '**Criteria 3 - Internal Fire Spread**' for further details.

Active fire safety:

Due to the size, purpose and layout of the building, no active fire safety systems, such as sprinklers are required.

Criteria 2 Summary:

Fire detection and alarm systems designed, installed & commissioned in accordance with BS 5839-6 shall be provided within the dwelling.

All construction shall achieve adequate fire resistance and compartmentation in accordance with the requirements of ADB Tables B3, B4 and C1. See '**Criteria 3 - Internal Fire Spread**' for further details.

Criteria 2 is thereby satisfied.

Criteria 3 - Constructed in an appropriate way to minimise the risk of fire spread

Internal Fire Spread:

ADB1 Table B4 sets out minimum periods of fire resistance for a range of development types. For three-storey dwellinghouses, Table B4 (Note 5) states a minimum of 30 minutes fire resistance is required, increased to 60 minutes minimum for compartment walls separating buildings (not applicable to the detached dwelling).

With reference to ADB1 Tables B3, B4 and C1, the following table provides a summary of the fire resistance requirements in the proposed development:

Part of building	Minimum provisions when tested to relevant part of BS 476 (minutes)			Type of exposure
	Loadbearing capacity (R)	Integrity (E)	Insulation (I)	
Structural frame	30 mins	n/a	n/a	Exposed faces
Loadbearing wall	30 mins	n/a	n/a	Each side separately
Floors (Upper storeys)	30 mins	30 mins	30 mins	From underside
Roofs (any roof that performs the function of a floor)	30 mins	30 mins	30 mins	From underside
External walls (below 1000mm from relevant boundary)	n/a	n/a	n/a	n/a
(above 1000mm from relevant boundary)	30 mins	30 mins	15 mins	From inside the building

Enclosures (not part of a compartment wall / protected shaft) I.e. Protected stairway	30 mins	30 mins	30 mins	Each side separately
Fire doorsets forming part of the enclosures to a protected stairway in a single family dwellinghouse	FD20			

Recommendations regarding fire stopping and protection of openings and concealed spaces will be discussed once the building design has progressed through RIBA Stage 3.

External Fire Spread:

To resist the **spread of fire over external walls**, the external surfaces should comply with the provisions in ADB Table 10.1. In residential buildings below 11m in height (applicable to the proposed development), external surfaces and finishings should achieve a reaction to fire performance of Class B-s3, d2 or better, when sited within 1000mm of relevant boundaries. Where greater than 1000mm from relevant boundaries, no specific provisions are required.

No elevations are sited within 1000mm of a relevant boundary.

With regards to the **spread of fire from one building to another**, no changes are proposed to the exterior of the building, such as new door / window openings or extensions, that would increase the risk of fire spread to adjacent properties.

The proposed change of use will have no adverse impact on the risk of external fire spread.

Criteria 3 Design Comments:

All works shall be constructed to achieve adequate fire resistance and compartmentation in accordance with the requirements of ADB Tables B3, B4 and C1.

The recommendations regarding fire stopping and protection of openings and concealed spaces will be discussed once the building design has progressed through RIBA Stage 3.

The proposed change of use will have no adverse impact on the risk of external fire spread.

Based on the above, it is considered that Criteria 3 is satisfied.

Criteria 4 - Provide suitable and convenient means of escape, and associated evacuation strategy for all building users

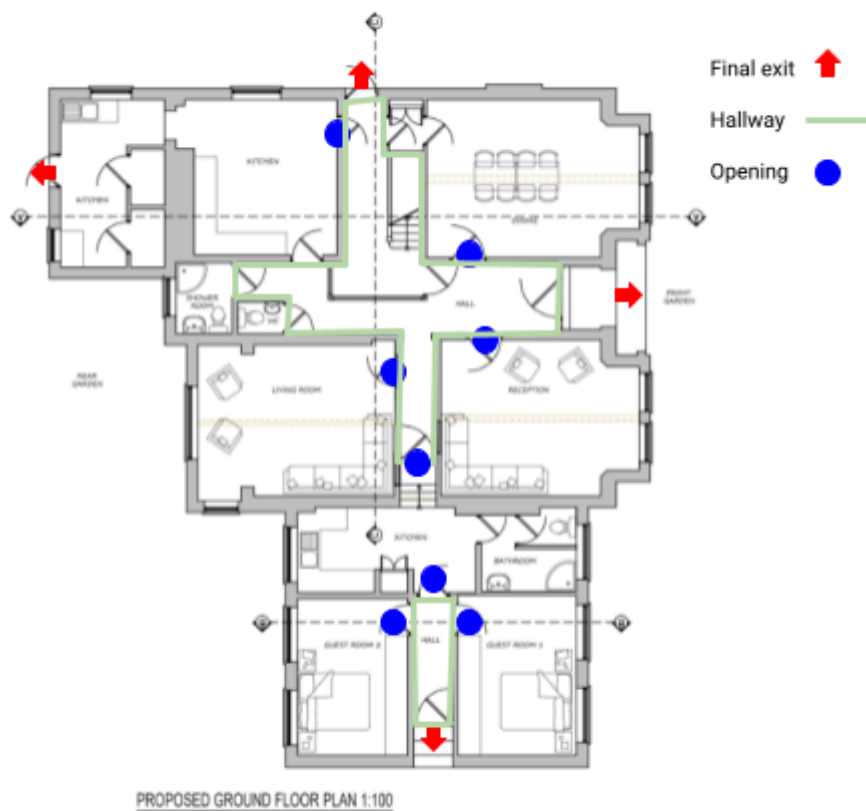
Means of Escape (dwellinghouses):

From the ground floor, ADB1 states that:

All habitable rooms (excluding kitchens) should have either of the following.

- A. An opening directly onto a hall leading to a final exit.*
- B. An emergency escape window or door*

The proposed ground floor layout (extract below) demonstrates that all habitable rooms have an opening directly onto a hallway leading to a final exit.



Based on the above, the means of escape from the ground floor are acceptable.

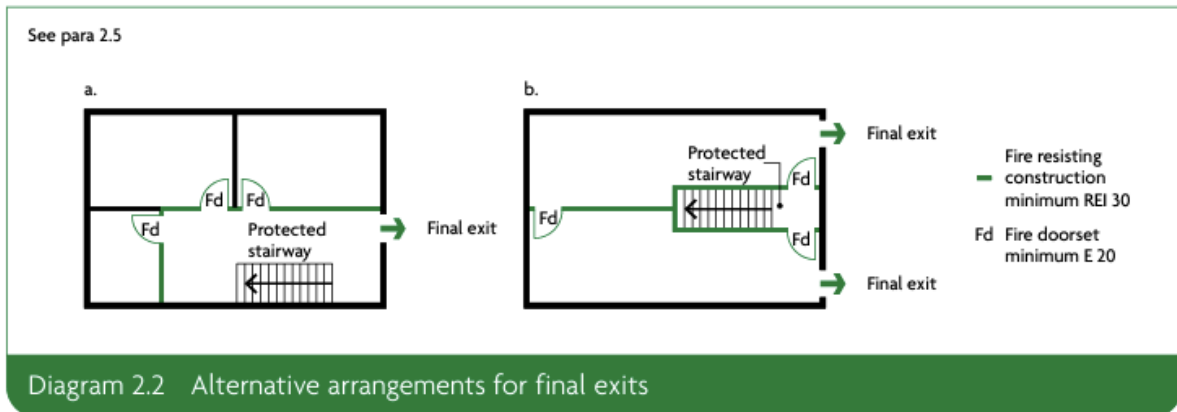
From upper storeys up to 4.5m above ground level (first floor), ADB1 states that:

Where served by only one stair, all habitable rooms (excluding kitchens) should have either of the following.

- A. An emergency escape window or external door.*
- B. Direct access to a protected stairway.*

A **Protected stairway** is a stair separated by fire resisting construction (minimum REI 30) at all storeys, that complies with one of the following.

- I. Extends to a final exit (Diagram 2.2a).
- II. Gives access to a minimum of two ground level final exits that are separated from each other by fire resisting construction (minimum REI 30) and fire doorsets (minimum E 20) (Diagram 2.2b).



From upper storeys over 4.5m above ground level (second floor), ADB1 states that:

The dwellinghouse should have either of the following:

- A. Protected stairway
- B. Alternative escape route

The proposed first and second floor layouts feature a protected stair serving all habitable rooms via a protected hallway.



Inner rooms include the 'Jack & Jill' bathroom and, walk-in closet and en-suite at first floor level. These are permitted by ADB1 paragraph 2.11.

Based on the above, the available means of escape satisfy the requirements of ADB1.

Evacuation Strategy

In all premises, the guiding principle for evacuation should be 'keep it simple', which should ensure that all persons likely to be in the building will correctly follow the chosen procedure. The simplest suitable option for a dwellinghouse is single stage evacuation; i.e. in the event of a fire, all occupants should immediately evacuate to a place of safety.

For individual dwellinghouses it is considered that the development of a detailed evacuation strategy is unwarranted.

Criteria 4 Design Comments:

Satisfactory means of escape are provided from all areas of the dwelling in accordance with the relevant requirements set out in ADB, and details of the simple evacuation strategy have also been provided.

Criteria 4 is thereby satisfied.

Criteria 5 - Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in

Evacuation Strategy

As discussed under Criteria 4, the development of a robust evacuation strategy for individual residential dwellings is not warranted.

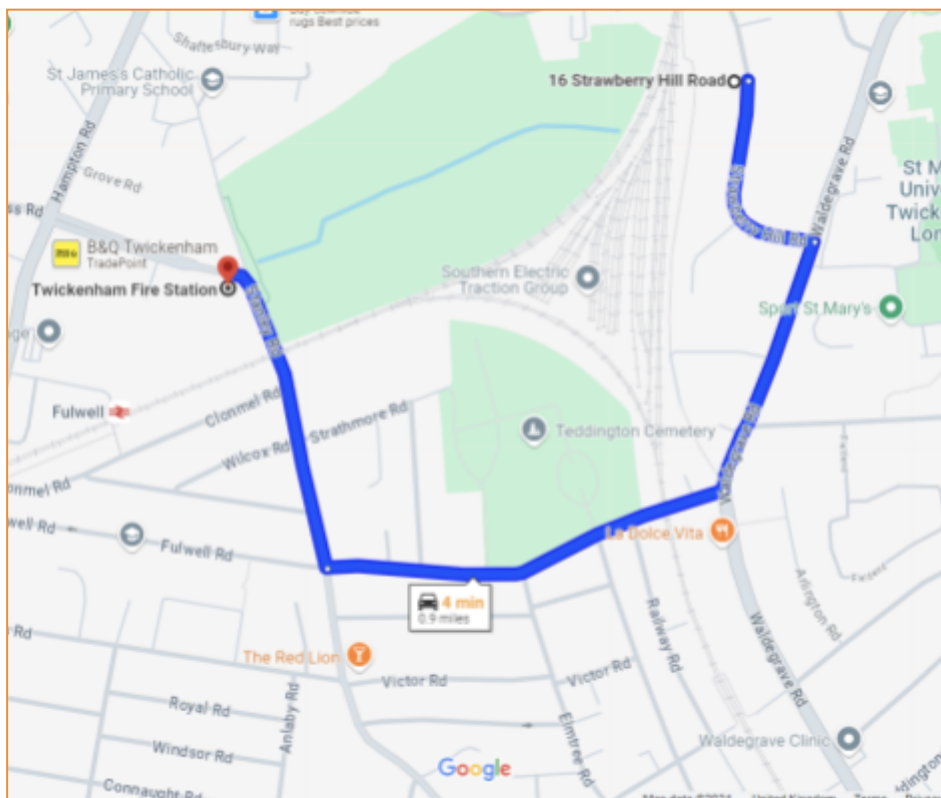
Criteria 5 is not applicable to the proposed development.

Criteria 6 - Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development

Access and Facilities

As noted under **Criteria 1a**, a fire service vehicle is able to station itself within 45m of all parts of the building. Furthermore, doors providing access to the interior of the dwelling are over 750mm wide. It is therefore considered that suitable access is available for the fire and rescue service.

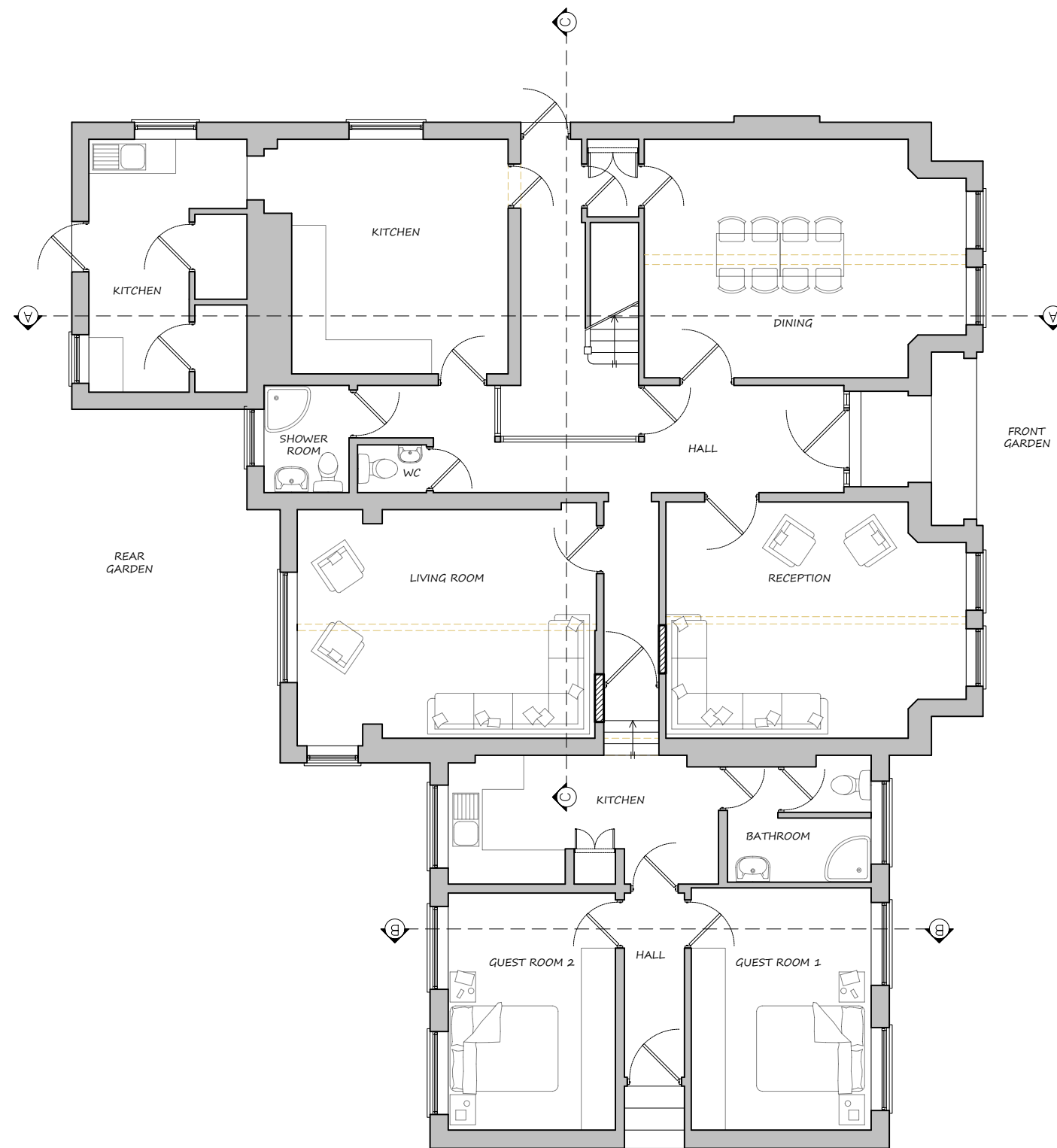
For information purposes, the nearest hydrant is located outside 9 Strawberry Hill Road approximately 25m from the application site, and the nearest Fire Station is Twickenham Fire Station located approximately ~1 mile (4 minutes drive) to the west of the site as illustrated below.



Adequate access and facilities to support fire fighting operations are proposed and therefore Criteria 6 is satisfied.

Appendices

Appendix A: Proposed Site Layouts and Elevations



PROPOSED GROUND FLOOR PLAN 1:100



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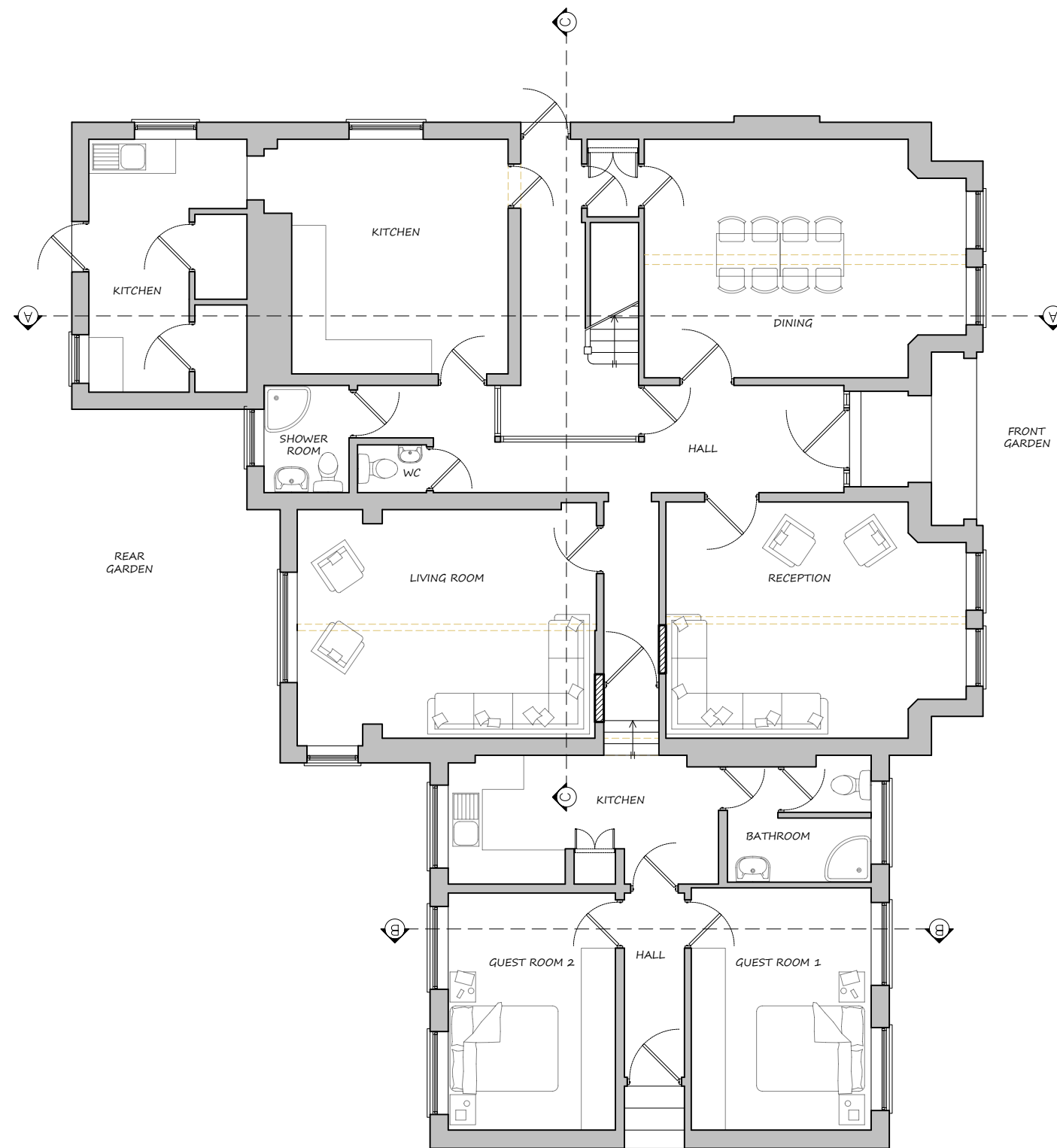
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Dwg.No: 591-PROP-07

Project: 16 Strawberry Hill Road
Twickenham
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REV : ORIGINAL

Date: 27-06-24
Scale: as noted @ A3



PROPOSED GROUND FLOOR PLAN 1:100



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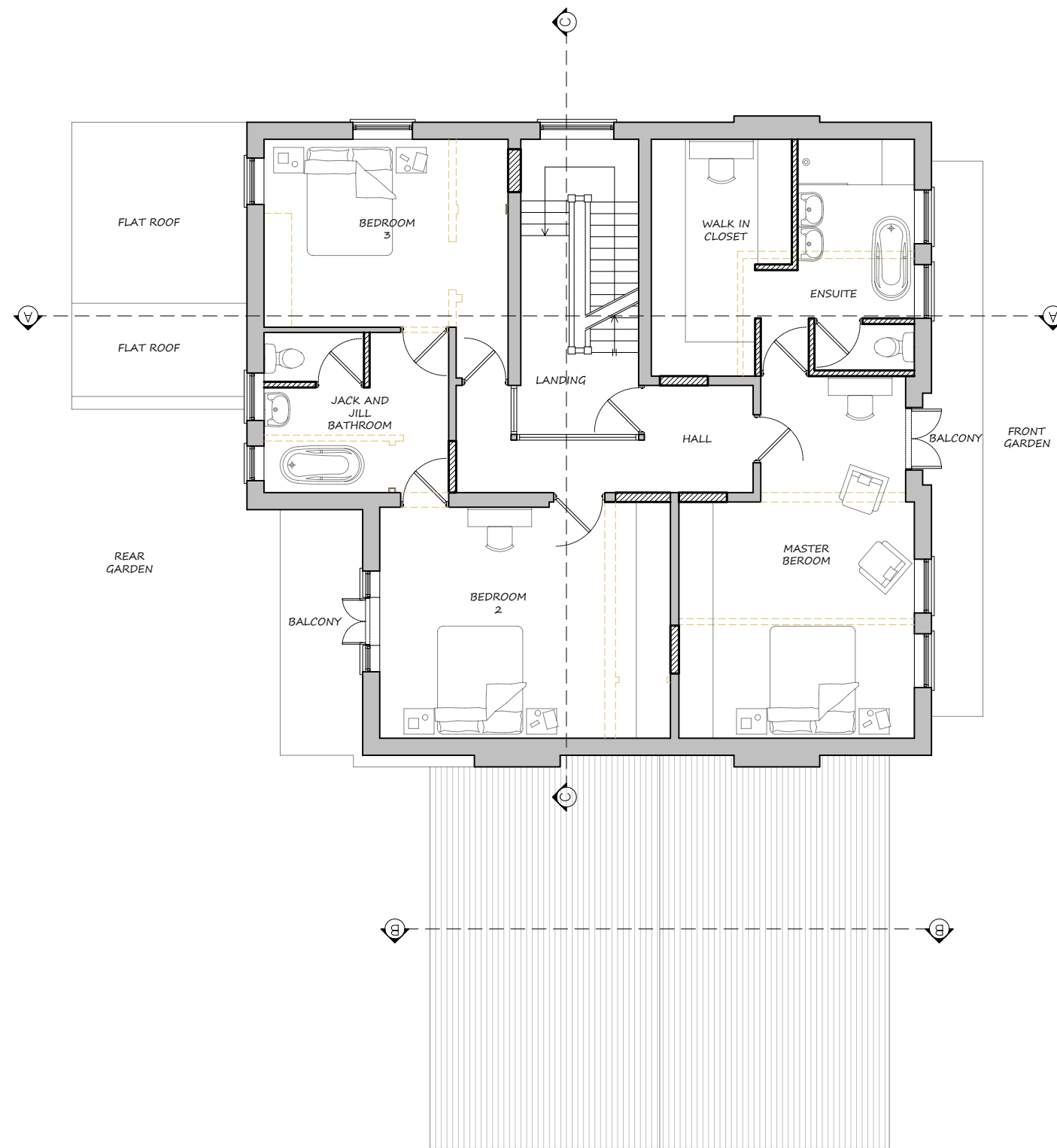
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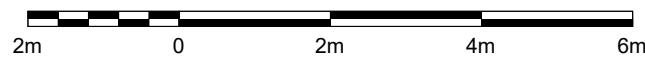
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PROPOSED FIRST FLOOR PLAN 1:100

1:100



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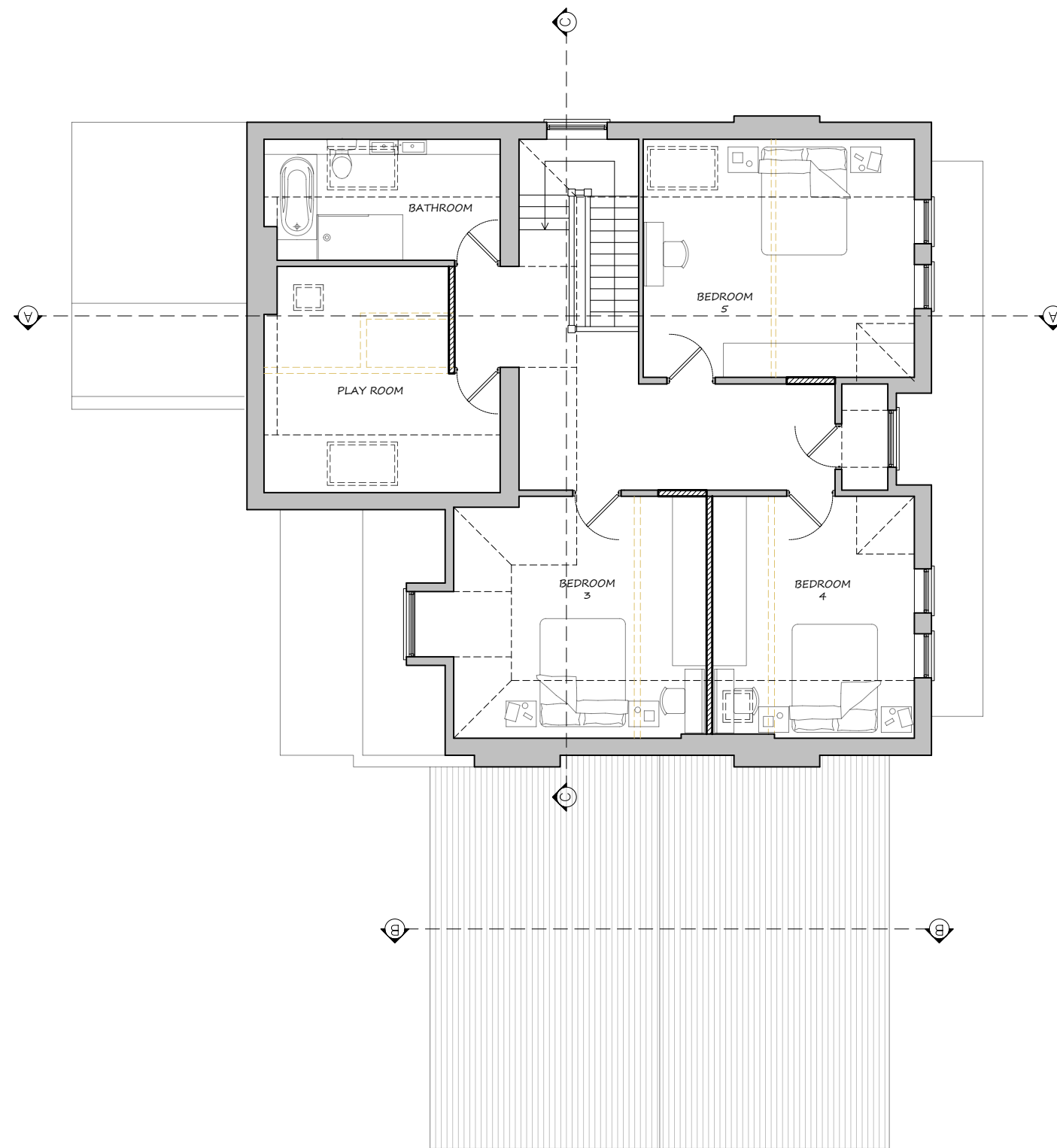
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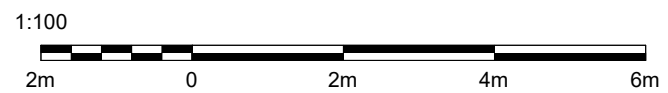
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PROPOSED SECOND FLOOR PLAN 1:100



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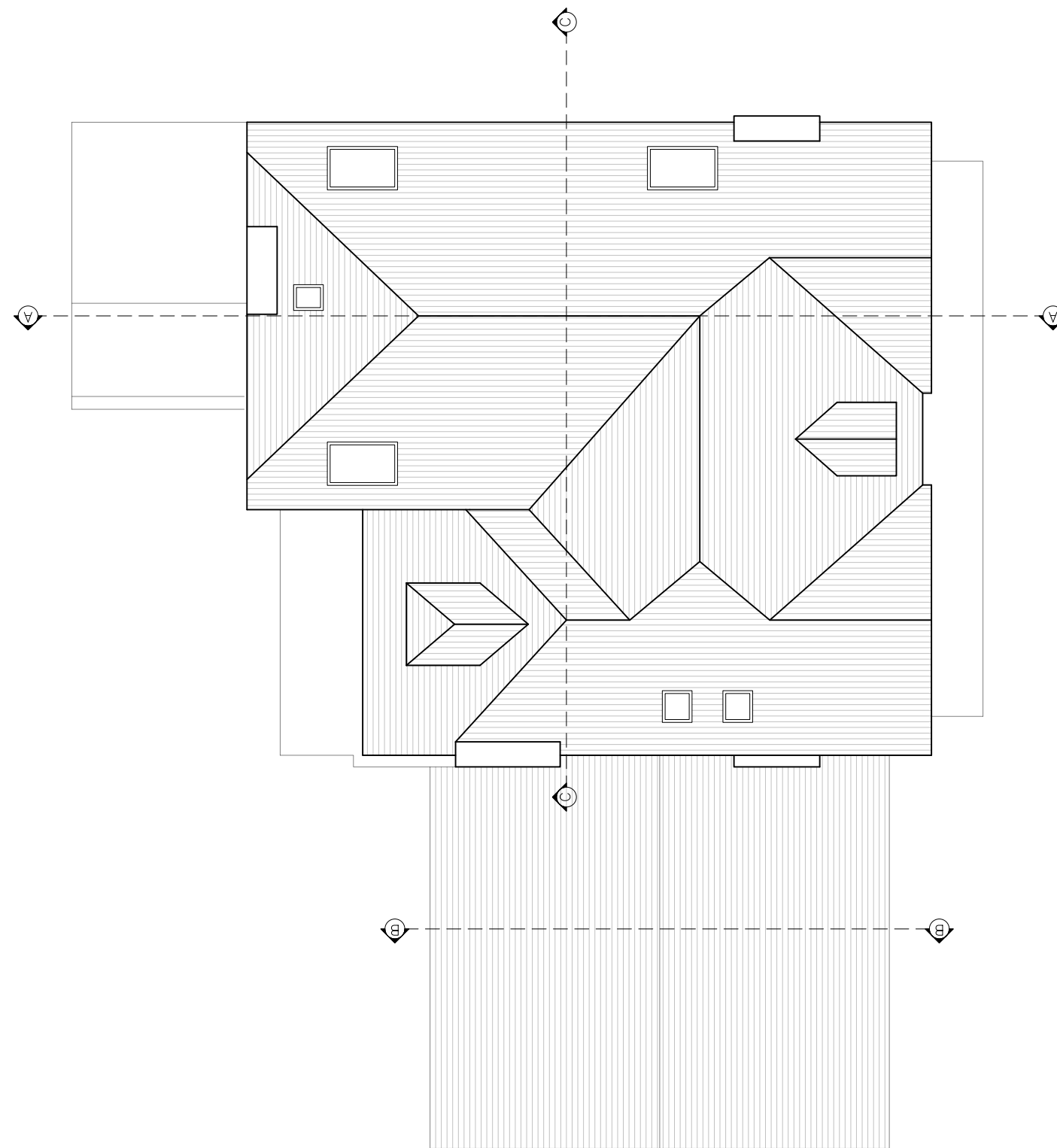
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PROPOSED ROOF PLAN 1:100



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Title: **PROPOSED FLOOR PLAN**

Dwg.No: **591-PROP-10**

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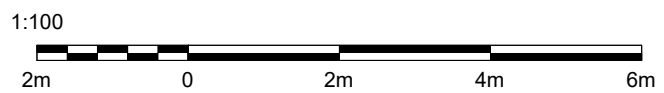
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PROPOSED FRONT ELEVATION 1:100



PROPOSED REAR ELEVATION 1:100



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Title: **PROPOSED ELEVATIONS**

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PROPOSED SIDE ELEVATION 1:100



PROPOSED SIDE ELEVATION 1:100



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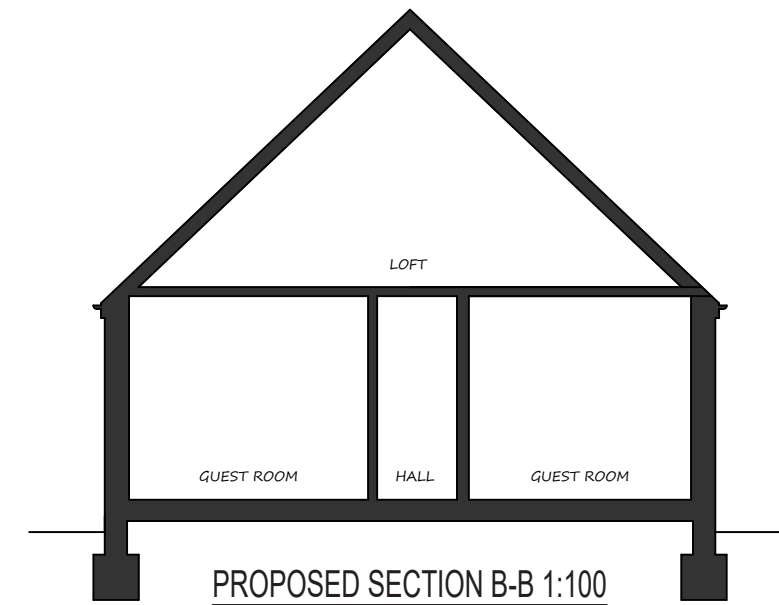
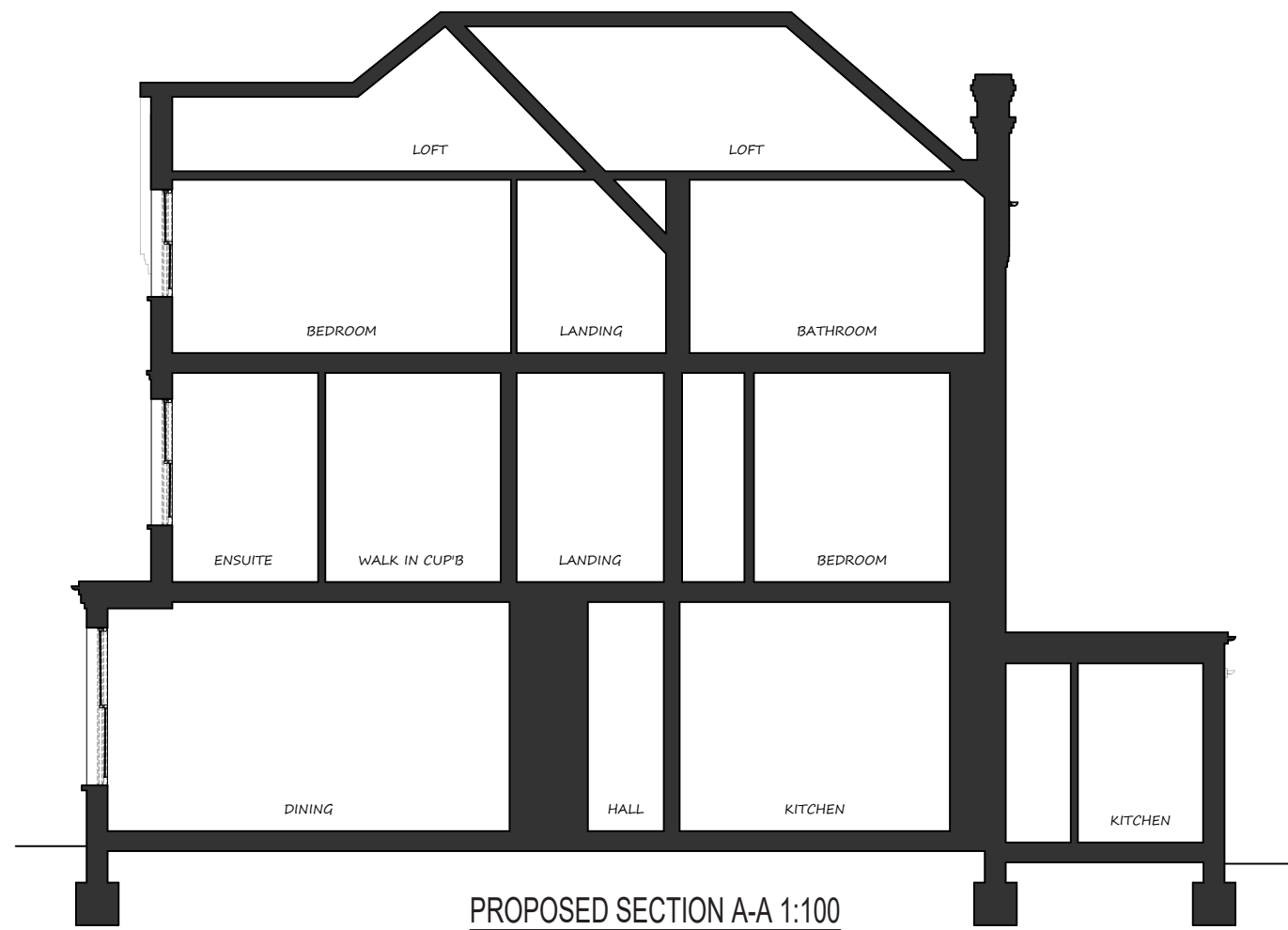
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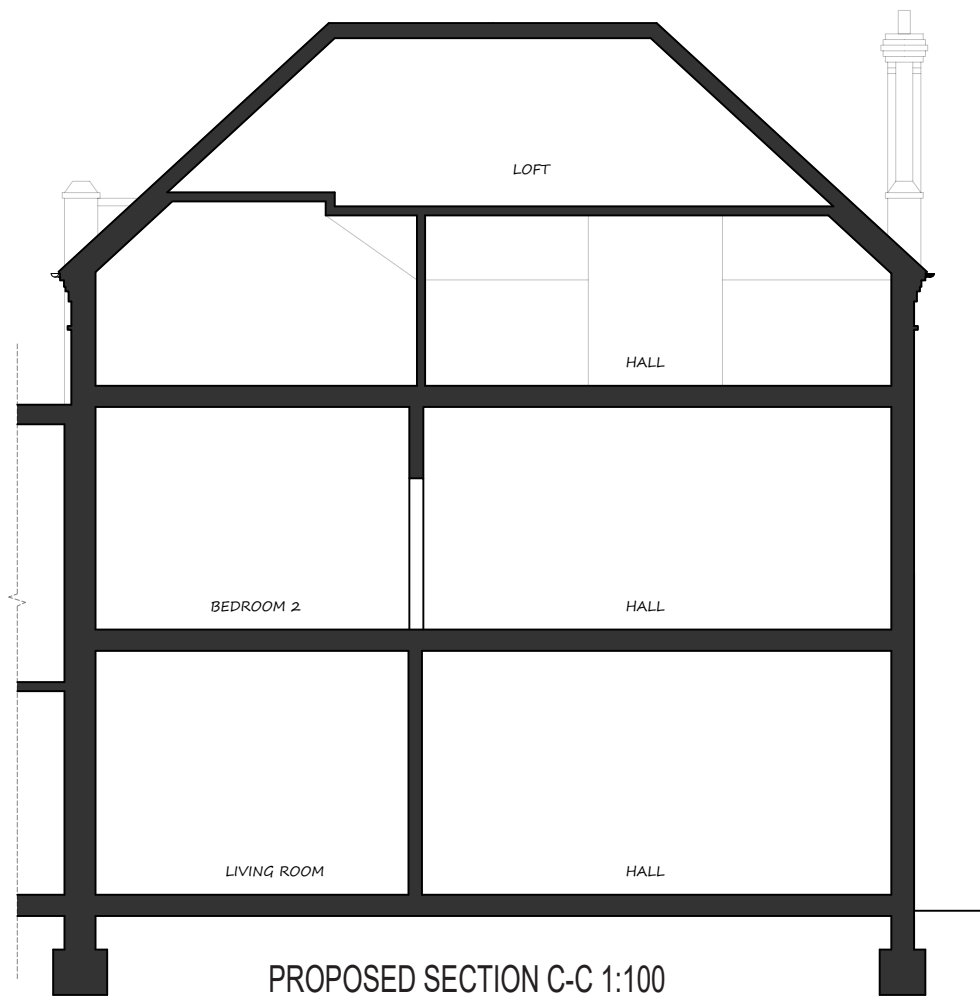
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Dwg.No: **591-PROP-13**

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PROPOSED SECTION C-C 1:100



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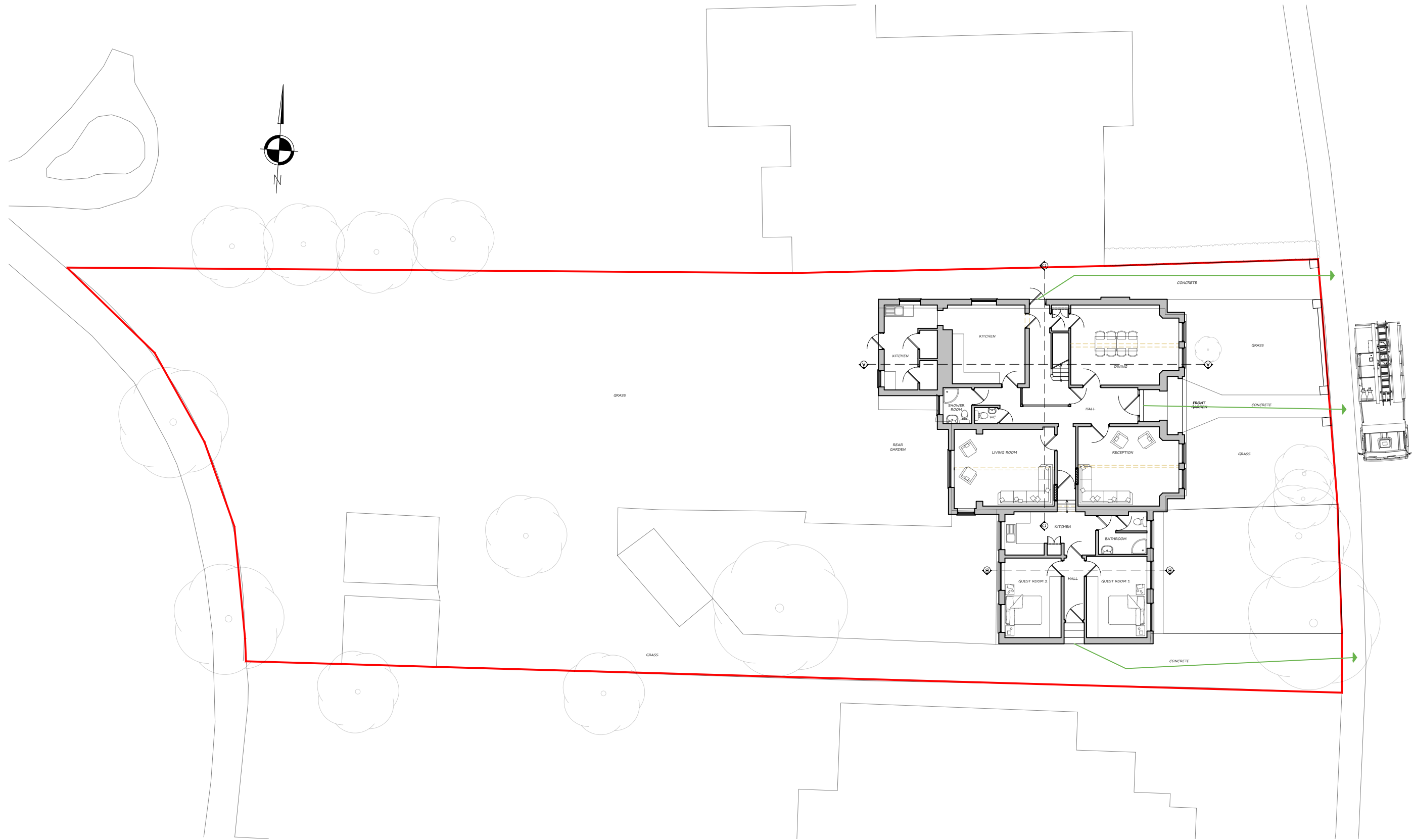
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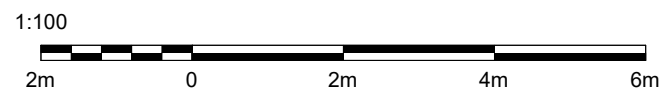
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PROPOSED BLOCK PLAN 1:200



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Title: **PROPOSED BLOCK PLAN**

Dwg.No: **591-PROP-15**

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