

SOCOTEC

PLANNING FIRE SAFETY STATEMENT

Wickenden Manor

Project no. 167561

Issue	Date	Drafted / Checked / Authorised	Notes
1	29/08/25	AGU / BA / HK	Initial issue for design team comments
2	10/09/25	AGU / HK / HK	Issue following design team comments

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CONTENTS

1	Summary	2
1.1	Background	2
1.2	Legislative requirements	2
1.3	Material Change of Use	2
1.4	Guidance	2
1.5	Authors	2
1.6	Information received	2
2	Project Overview	3
2.1	Project Brief	3
2.2	Occupancy	5
2.3	Purpose groups	6
3	Fire Safety Systems	7
3.1	Means of Detection and Alarm	7
3.2	Automatic Suppression System	7
3.3	Actuation of Release Mechanisms for Doors	7
3.4	Fire and Smoke Shutters / Curtains	7
3.5	Emergency Lighting	7
3.6	Fire safety signage	7
3.7	Back-up Power Supplies	7
3.8	First-aid firefighting	7
3.9	Security	7
3.10	Housekeeping	7
4	Means of Warning And Escape	8
4.1	Evacuation regime	8
4.2	Means of detection and alarm	8
4.3	Means of escape	8
4.4	Escape beyond the final exits	11
4.5	Means of escape for disabled occupants	11
5	Internal Fire Spread	12
5.1	Internal linings	12
5.2	Structural fire resistance, compartmentation and fire-resisting separation	12
5.3	Fire doors and escape doors	12
5.4	External walls of protected stairways	12
5.5	Fire-stopping and penetrations through fire-separating elements	12
5.6	Cavity barriers	13
6	External fire Spread	14
6.1	External surfaces and wall materials	14
6.2	Roof coverings	14
6.3	Space separation and unprotected areas of the external walls	14
7	Access and Facilities for FireFighting	15
7.1	Overview	15
7.2	Vehicle access to and around the site	15
7.3	Access into and through the building	15
7.4	Water supplies	15
8	Golden thread	16
8.1	Future development of the asset and the ‘Golden thread’ of information	16
9	Bibliography	17

1 SUMMARY

1.1 Background

1.1.1 SOCOTEC UK Limited (herein referred to as SOCOTEC) has been appointed by Netherhall Educational Association (herein referred as the Client) to develop the planning fire safety statement for the proposed retrofit and extension works to three existing buildings within a conference and retreat centre, namely Manor, Lodge and Stables, located at Chilling Street, East Grinstead, RH19 4JB.

1.1.2 This is Issue 2 of the report, issued following the updated drawings. All changes to the text have been highlighted as indicated here.

1.1.3 This document is not intended to portray detailed design information. As a strategic document supporting and informing the wider design, it should be read in conjunction with the wider project design documentation.

1.2 Legislative requirements

The Building Regulations

1.2.1 The fire statement has been developed to satisfy the functional requirements of Regulation 7, and Parts B1 – B5 of Schedule 1 to the Building Regulations 2010 (as amended).

1.2.2 The fire statement will be developed to satisfy the requirements for fire safety as set out by the Building Regulations. The document has not been developed to address property protection. However, the features that are included for life safety will contribute in some extent to property protection.

1.2.3 In accordance with Regulation 4 of the Building Regulations, works must meet the functional requirements of the Building Regulations.

1.2.4 The fire statement has been developed in cognisance of the Construction (Design and Management) Regulations 2015 (CDM 2015), which sets out what designers are required to consider protecting anyone involved in the construction or ongoing use of a structure.

1.2.5 The fire statement does not address site fire safety during the building works, or the requirements of Dangerous Substances and Explosive Atmosphere Regulations 2002 (DSEAR), Health and Safety at Work etc Act 1974 (HASAWA), Control of Major Accident Hazards Regulations 2015 (COMAH), etc. which should be considered as a separate exercise.

1.3 Material Change of Use

1.3.1 The Schedule 5 of the Building Regulations 2010 states that the 'Material Change of Use' is understood to occur when the use of a building or part of a building is altered in such a way that there are significant changes to its purpose, occupancy profile or the risks that were originally considered in its design.

1.3.2 For the proposed works on the buildings, it is understood that the works will be classified as 'Material Change of Use' due to the change in the number of sleeping accommodation.

1.3.3 Therefore, the proposed layouts will need to be comprehensively assessed against the requirements of Part B (Fire Safety) of the Building Regulations

1.4 Guidance

1.4.1 The requirements of Section 1.2 should be met through compliance with the prescriptive recommendations of Approved Document B: Volume 2 (ADB Vol.2) [1] and the codes of practice referenced therein and supplemented by BS 9999:2017 [2] where ADB Vol.2 does not provide sufficient guidance.

1.4.2 In accordance with the fire safety engineering principles detailed in the BS 7974 [3] codes of practice, all fire precautions are determined on the basis of there being one seat of fire.

1.5 Authors

Author	Role	Experience
Alperen Gürer BSc MSc AIFireE	Fire Engineer	2 years
Beatriz Aviñó BSc MSc AIFireE	Fire Engineer	2 years
Humza Khan BSc MSc AIFireE GMICE	Senior Fire Engineer	4 years

1.6 Information received

1.6.1 This strategy is based on information provided to SOCOTEC as listed in Table 1. Additional information or variations to that supplied may render the conclusions and recommendations within this report invalid.

Table 1 – Referenced documents

Description	Reference	Rev.	Date
Location Plan	A-0000	0	29/08/2025
Site Plan Proposed	A-0002	0	29/08/2025
LODGE Ground Floor Plan PROPOSED	L-2000	0	29/08/2025
LODGE First Floor Plan PROPOSED	L-2001	0	29/08/2025
LODGE North Elevation PROPOSED	L-2200	0	29/08/2025
LODGE South Elevation PROPOSED	L-2201	0	29/08/2025
LODGE East Elevation PROPOSED	L-2202	0	29/08/2025
LODGE West Elevation PROPOSED	L-2203	0	29/08/2025
LODGE Section 1 PROPOSED	L-2400	0	29/08/2025
LODGE Section 2 PROPOSED	L-2401	0	29/08/2025
LODGE Section 3 PROPOSED	L-2402	0	29/08/2025
MANOR Lower Ground Floor Plan PROPOSED	M-2000	0	29/08/2025
MANOR Ground Floor Plan PROPOSED	M-2001	0	29/08/2025
MANOR First Floor Plan PROPOSED	M-2002	0	29/08/2025
MANOR Second Floor Plan PROPOSED	M-2003	0	29/08/2025
MANOR North Elevation PROPOSED	M-2200	0	29/08/2025
MANOR South Elevation PROPOSED	M-2201	0	29/08/2025
MANOR East Elevation PROPOSED	M-2202	0	29/08/2025
MANOR West Elevation PROPOSED	M-2203	0	29/08/2025
MANOR Section 1 PROPOSED	M-2400	0	29/08/2025
MANOR Section 2 PROPOSED	M-2401	0	29/08/2025
MANOR Section 3 PROPOSED	M-2402	0	29/08/2025
MANOR Section 4 PROPOSED	M-2403	0	29/08/2025
STABLES Ground Floor Plan PROPOSED	S-2000	0	29/08/2025
STABLES First Floor PROPOSED	S-2001	0	29/08/2025
STABLES North Elevation PROPOSED	S-2200	0	29/08/2025
STABLES South Elevation PROPOSED	S-2201	0	29/08/2025
STABLES East Elevation PROPOSED	S-2202	0	29/08/2025
STABLES West Elevation PROPOSED	S-2203	0	29/08/2025
STABLES Section 1 PROPOSED	S-2400	0	29/08/2025

2

2.1 Project Brief

- 2.1.1 Located on the existing Wickenden Manor site at Chilling Street, East Grinstead RH19 4JB, the project consists of the retrofit and extension works of three existing buildings within a conference and retreat centre, namely Manor, Lodge and Stables.
- 2.1.2 The proposed works seeks to satisfy the requirements for fire safety under the Building Regulations 2010 (Part B) through compliance with the fire safety design recommendations of ADB Vol.2 and the codes of practice referenced therein.
- 2.1.3 The Manor has 4 storeys (B, G + 2) and is being used for accommodation with ancillary facilities including library, communal lounges, laundry, kitchen, study spaces, event spaces, public oratory and dining halls. The Lodge is a two-story (G+1) building used for accommodation and dining facilities. Stables is a two-story (G+1) building which is currently not being used. It will be used as a oratory and accommodation building in the future.

Table 2 – Building heights

Building	No. of floors	Uppermost storey height (m)	Total height (m)
Manor	B, G + 2	6	9.5
Lodge	G + 1	3	7.2
Stables	G + 1	2.5	6

Note The above heights should be confirmed by the design team.

- 2.1.4 The Manor will be served by one accommodation stair, two protected stairs and a passenger lift. Whilst the Lodge is served by a single protected stair.
- 2.1.5 The buildings are assumed to be built of traditional elements of construction i.e. brick & mortar, concrete.
- 2.1.6 Figure 1 shows the site plan. Figure 2 to Figure 9 shows the proposed floor plans for the Manor, Lodge and Stables buildings.



Figure 1 – Site plan

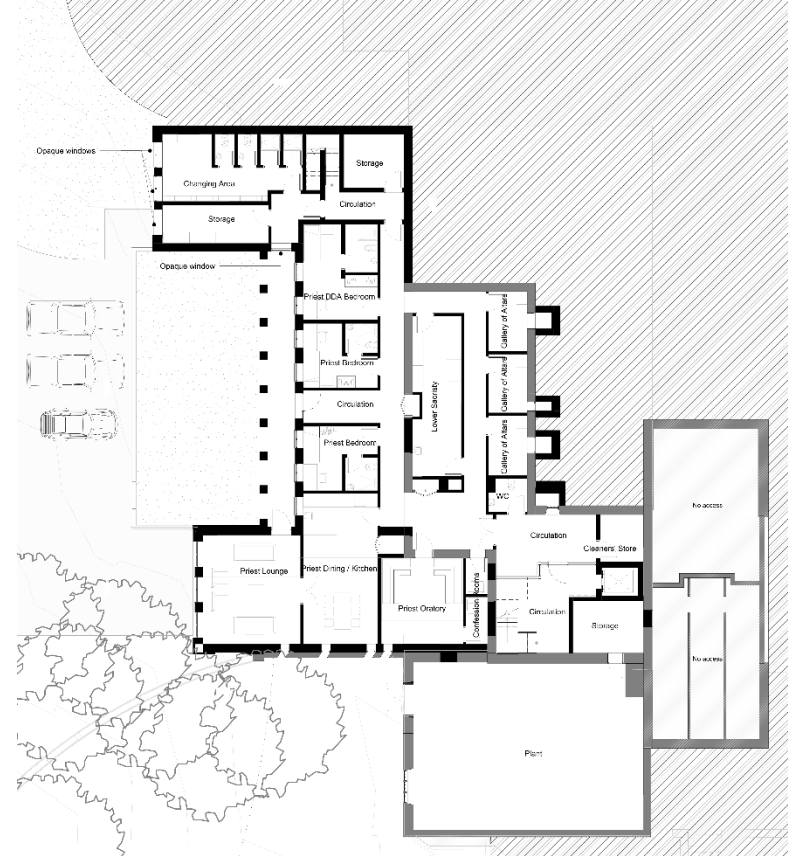


Figure 2 – Manor Lower Ground Floor Plan

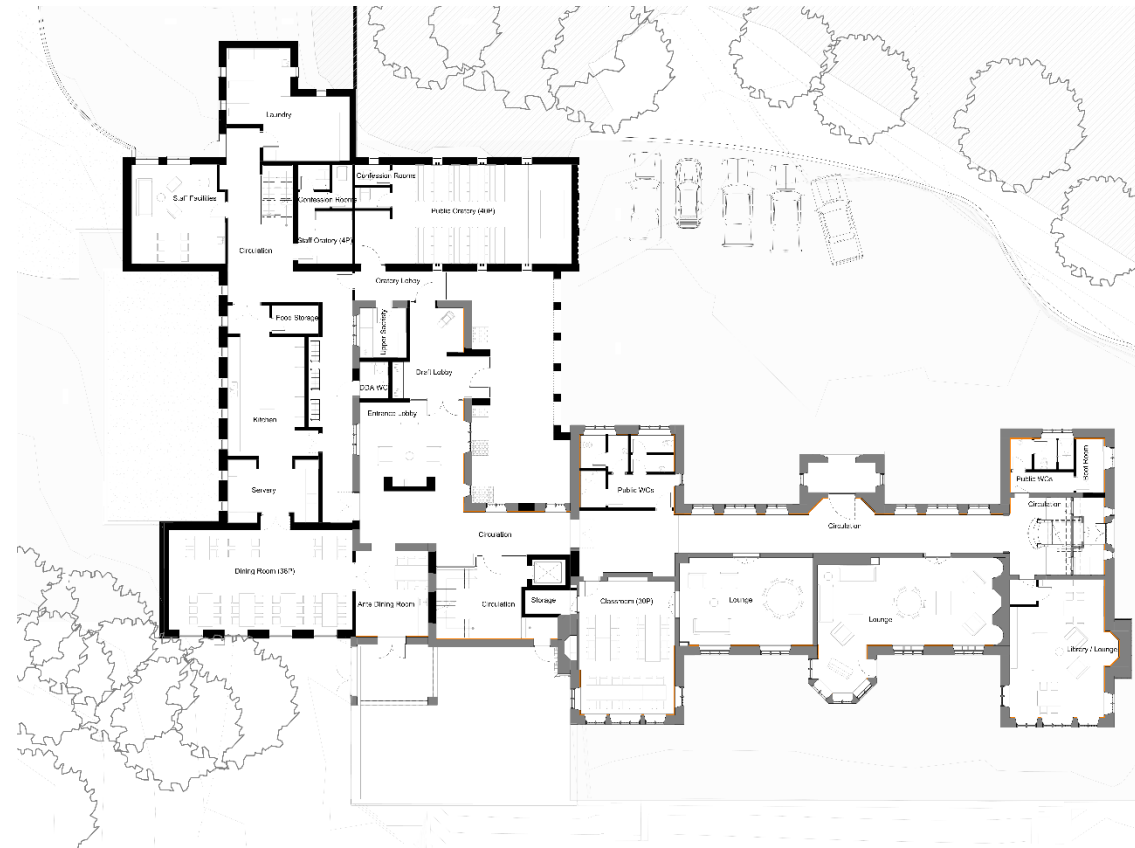


Figure 3 – Manor Ground Floor Plan

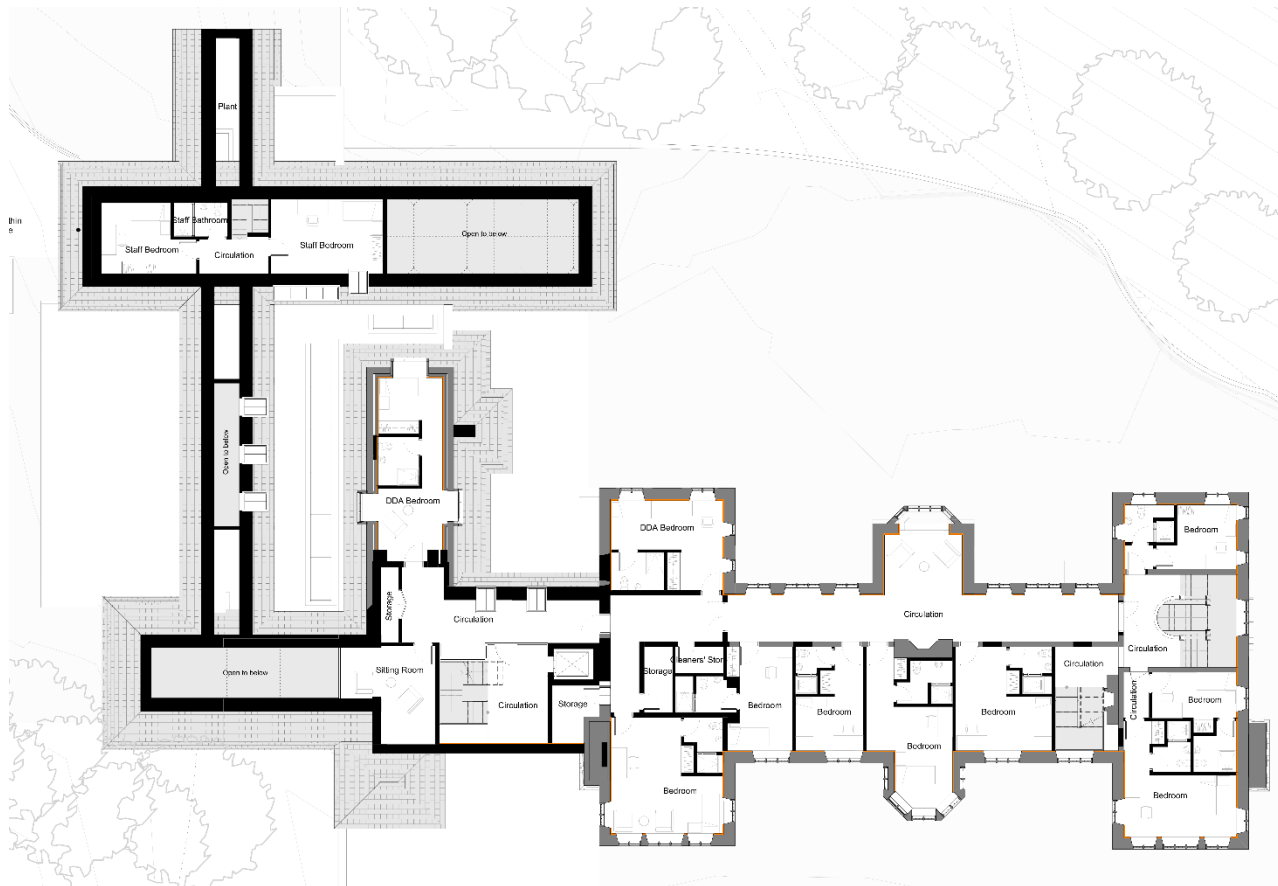


Figure 4 – Manor First Floor Plan

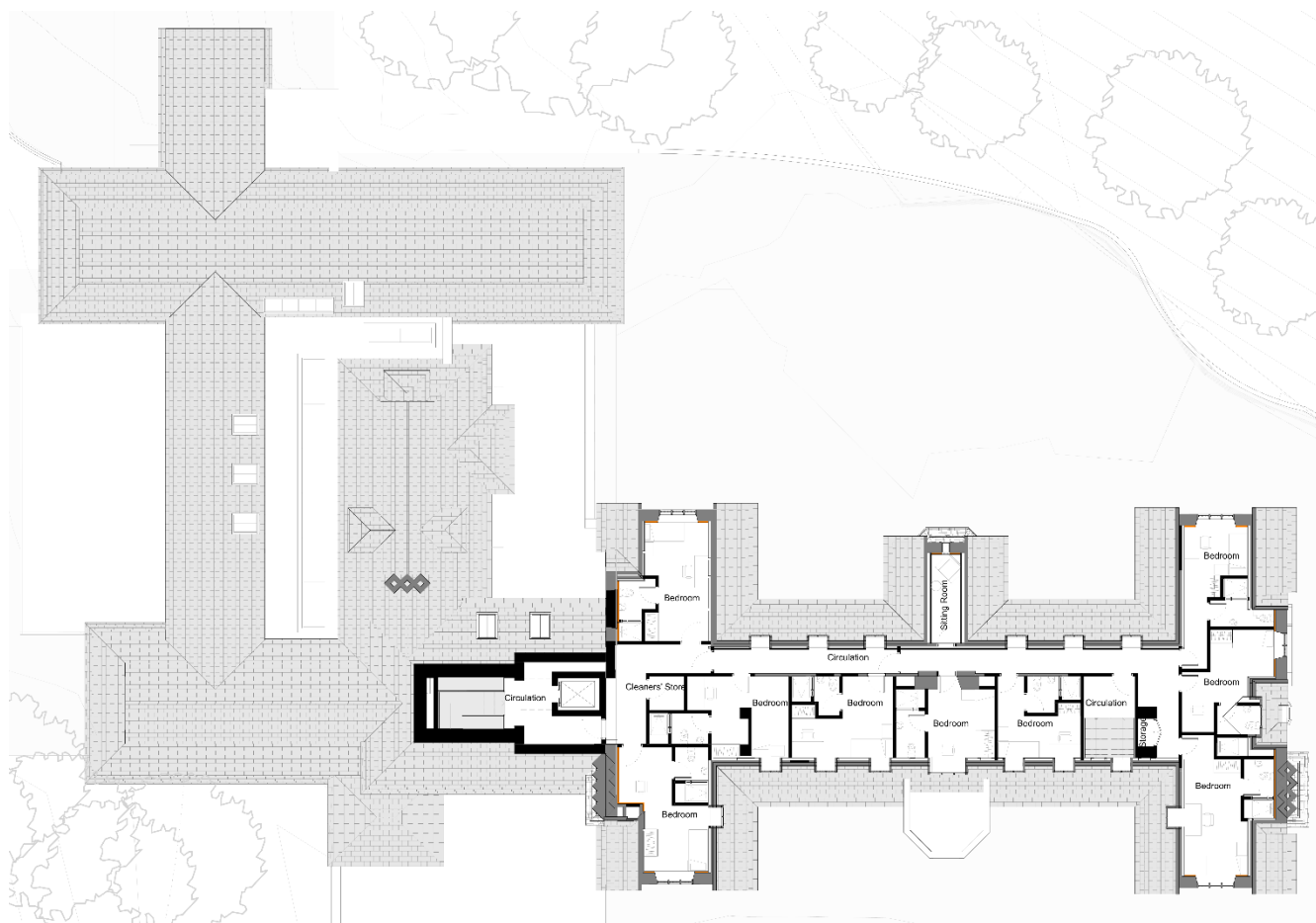


Figure 5 – Manor Second Floor Plan

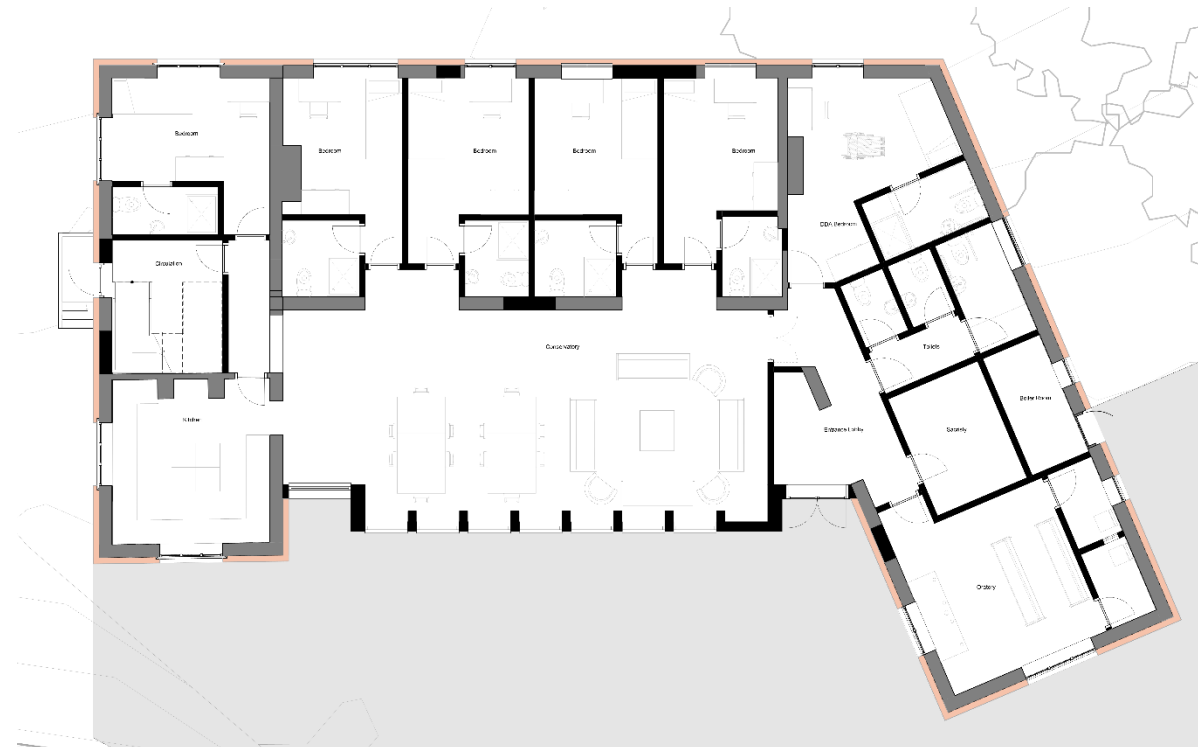


Figure 6 – Lodge Ground Floor Plan

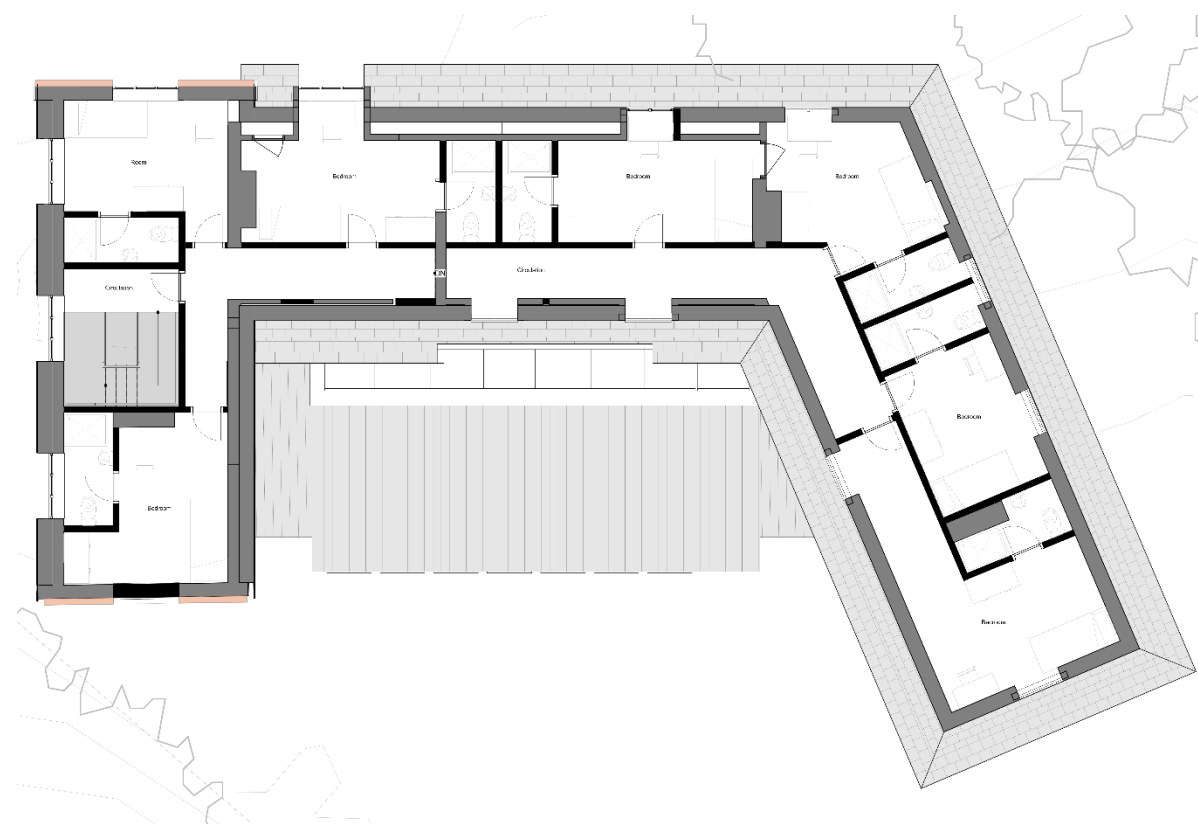


Figure 7 – Lodge First Floor Plan



Figure 8 – Stables Ground Floor Plan

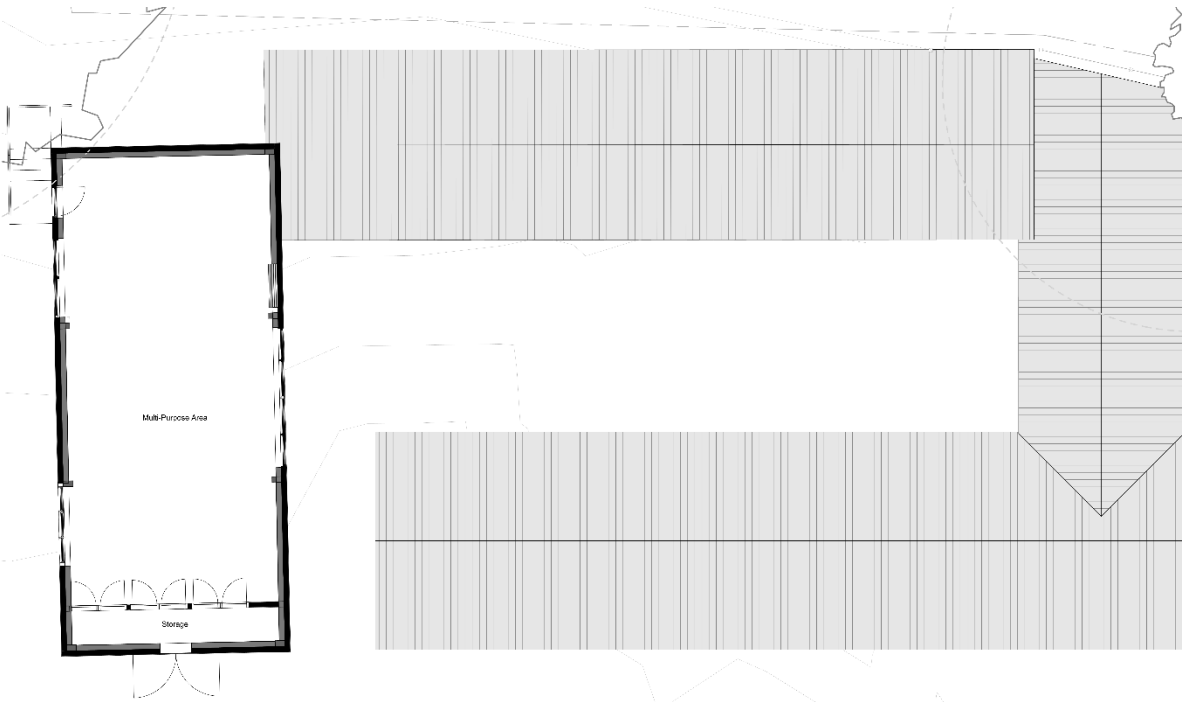


Figure 9 – Stables First Floor Plan

2.2 Occupancy

- 2.2.1 The Manor Building will contain 23 bedrooms with single bed per bedroom resulting in a total of 23 beds distributed across three floors as indicated in Table 3. Whereas the Lodge will contain 13 bedrooms with single bed per bedroom resulting in a total of 13 beds distributed across two floors. The Stables will be provided with 6 bedrooms with two beds and 1 bedroom with single bed, resulting in a total of 13 beds.
- 2.2.2 According to Table D1 of ADB Vol.2, the design occupancy can be estimated using floor space factors characteristic for different to each use type. A preliminary occupancy assessment for non-residential areas has been carried out in Table 4 and Table 5. Stores, plant rooms, WCs, laundries, sacristies and the gallery of altars etc. are considered transient space without permanent occupancy, thus these areas have not been considered in the occupancy assessment.

Table 3 - Occupancy numbers for residential areas

Floor	Number of bedrooms			Number of beds			Number of occupants		
	Manor	Lodge	Stables	Manor	Lodge	Stables	Manor	Lodge	Stables
Second	9	0	0	9	0	0	9	0	0
First	11	7	0	11	7	0	11	7	0
Ground	0	6	7	0	6	13	0	6	13
Basement	3	0	0	3	0	0	3	0	0
Total	23	13	7	23	13	13	23	13	13

Table 4 – Occupancy numbers for non-residential areas of Manor

Floor	Use (amount)	Floor area (m²)	Floor space factor (m²/person)	Number of occupants (total)
Second	Sitting Room	--Note 1	--Note 1	1
First	Sitting Room (3)	--Note 1	--Note 1	2 (6)
Total above-ground levels (excluding bedrooms):				7
Ground	Office	--Note 1	--Note 1	3
	Staff Oratory	--Note 1	--Note 1	4
	Public Oratory	--Note 1	--Note 1	40
	Confession Rooms (4)	--Note 1	--Note 1	1 (4)
	Kitchen	43	7	7
	Servery	17	7	3
	Dining Room	--Note 1	--Note 1	36
	Ante Dining Room	--Note 1	--Note 1	6
	Entrance Lobby	--Note 1	--Note 1	3
	Classroom	--Note 1	--Note 1	30
	Lounge	--Note 1	--Note 1	13
	Lounge	--Note 1	--Note 1	18
	Library / Lounge	--Note 1	--Note 1	13
Total ground level:				180
Basement	Staff facilities	--Note 1	--Note 1	14
	Priest Lounge	--Note 1	--Note 1	8
	Priest Dining / Kitchen	--Note 1	--Note 1	6
	Confession Rooms (2)	--Note 1	--Note 1	1 (2)
	Priest Oratory	--Note 1	--Note 1	6
Total below-ground levels:				36
Grand Total				223

Note 1 – Based on the number of seats.

Table 5 – Occupancy numbers for non-residential areas of Lodge

Floor	Use (amount)	Floor area (m²)	Floor space factor (m²/person)	Number of occupants (total)
Ground	Lounge / Dining	--Note 1	--Note 1	21
	Kitchen	20.7	7	3
	Oratory	--Note 1	--Note 1	12
	Confession Rooms (2)	--Note 1	--Note 1	1 (2)
Total				38

Note 1 – Based on the number of seats.

Table 6 – Occupancy numbers for non-residential areas of Stables

Floor	Use (amount)	Floor area (m²)	Floor space factor (m²/person)	Number of occupants (total)
Ground	Dining Room	--Note 1	--Note 1	32
	Kitchen	9.1	7	2
	Oratory	--Note 1	--Note 1	34
	Confession Room	--Note 1	--Note 1	1
	Sacristy	--Note 1	--Note 1	1
	Leader's HQ	--Note 1	--Note 1	7
Total				77

Note 1 – Based on the number of seats.

2.3 Purpose groups

2.3.1 Table 7 outlines the proposed purpose group for each use / area within the building. The choice of purpose group is based on Table 0.1 of ADB2.

Table 7 – Purpose groups

Title	Group	Description	Use / area
Residential (other)	2(b)	Hall of residence, Hotel	Residential areas
Assembly and recreation	5	Place of assembly, entertainment or recreation	Areas accessed by public
Storage and other non-residential	7(a)	Places for the storage or deposit of goods or materials	All types of stores, kitchens
Places of special fire hazard	2-7	Oil-filled transformer room, switchgear room, boiler room, storage space for fuel or other highly flammable substances, Room housing internal combustion engine	Plant rooms

3 FIRE SAFETY SYSTEMS

3.1 Means of Detection and Alarm

- 3.1.1 The buildings should be fitted with a Category L1 automatic fire detection and alarm system (AFD), in accordance with BS 5839-1 [4].
- 3.1.2 Visual alarms should also be provided in other areas where the background sound level could be louder than an audible fire alarm (i.e., mechanical plant rooms).
- 3.1.3 The main fire alarm panels will be located in a conspicuous location that is both visible and accessible to the fire service and building management personnel e.g., fire control centre and a repeater in the buildings' main entrance/reception.

3.2 Automatic Suppression System

- 3.2.1 Sprinkler systems are not required to be provided in the buildings as per the ADB Vol.2 requirements.

3.3 Actuation of Release Mechanisms for Doors

- 3.3.1 Interface(s) between a fire detection and fire alarm system and door hardware should be provided in accordance with BS 7273-4 where any such arrangements that are designed in the event of fire to:
 - Release fire-resisting doors that are normally held in the open position;
 - Unlock doors that are normally locked; or
 - Cause powered sliding doors to open.

3.4 Fire and Smoke Shutters / Curtains

- 3.4.1 The fire and smoke shutters / curtains, where installed, should be self-closing under gravity. They should be tested and installed in accordance with BS 8524-1 [5] and BS 8524-2 [6] respectively.
- 3.4.2 In addition to the above, some general recommendations are that the fire and smoke shutters / curtains should:
 - Be initiated by an appropriate automatic fire detector.
 - Be capable of multi-stage deployment to act initially as a smoke barrier relevant to the risk, where deemed necessary.
 - Have emergency retract controls relevant to the risk.
 - Have obstruction warnings or floor markings dependent upon the location.

3.5 Emergency Lighting

- 3.5.1 Emergency lighting should be provided in accordance with the recommendations of BS 5266 [7], BS EN 1838 [8], and BS EN 60598-2-22 [9].
- 3.5.2 Emergency lighting should illuminate all occupied areas, common evacuation routes (internal and external as necessary) and essential areas including plant areas. It will also illuminate a safe exit route including fire exits, fire alarm call points, changes in level or direction and firefighting equipment. Lighting to escape stairs should be on a separate circuit from that supplying any other part of the escape route.
- 3.5.3 Primary and emergency lighting should be required for any external escape routes that will not be lit by surrounding street lighting.

3.6 Fire safety signage

- 3.6.1 Fire safety signs should be provided in accordance with BS 5499-4 [10], BS 5499-10 [11] and BS ISO 3864-1 [12].

3.7 Back-up Power Supplies

- 3.7.1 Life safety power supplies should be provided in accordance with BS 8519 [13]. The secondary power requirements of the fire detection and alarm systems, fire and smoke curtain and emergency lighting are expected to be provided via battery back-up in accordance with the relevant standard (e.g. EN54).

3.8 First-aid firefighting

- 3.8.1 In general, fire points should be located at all storey exits, within specific areas presenting a significant fire risk and to ensure coverage of at least one fire point for every 200 m² of floor area. The type and size of extinguisher(s) at each fire point should be chosen in accordance with the guidance given in BS 5306-8 [14].

- 3.8.2 Portable extinguishers should comply with BS EN 3-7 [15] and BS EN 3-10 [16], to be inspected and maintained in accordance with BS 5306-3 [17].
- 3.8.3 First-aid firefighting provisions should be assessed and provided as part of the fire risk assessment for the building, including consideration for the day-to-day management of the provisions.

3.9 Security

- 3.9.1 To reduce the likelihood of arson and to mitigate its effects if it does occur, the buildings should have suitable and sufficient security provisions.
- 3.9.2 Security arrangements must not prevent occupants from reaching a place of relative or ultimate safety, and should not hinder the entry of the fire and rescue service to fight the fire or effect the rescue of trapped persons.

3.10 Housekeeping

- 3.10.1 Management should ensure that ignition sources and easily ignitable materials are suitably controlled and segregated.
- 3.10.2 Circulation routes should be maintained as fire sterile, meaning free from combustibles.

4 MEANS OF WARNING AND ESCAPE

4.1 Evacuation regime

- 4.1.1 The buildings should be evacuated simultaneously upon activation of the fire detection and alarm system. The investigation period if required by the Client considering that people will be sleeping in the premises will be implemented on the further design stages.

4.2 Means of detection and alarm

- 4.2.1 The buildings should be fully provided with a Category L1 Automatic Fire Detection and Alarm (AFD) system, in accordance with BS 5839-1, with heat detectors in kitchens.

4.3 Means of escape

- 4.3.1 The general philosophy for means of escape is that the occupants of a building will be able to turn their back on a fire and escape via the nearest exit without additional assistance from other occupants (unless assisting disabled occupants). In the first instance, this is achieved by alternative escape routes and escape routes with a specified period of fire resistance.
- 4.3.2 The Manor Building will be provided with 7 final exits from the Ground Floor and 3 final exits from the basement Floor as shown in Figure 10 and Figure 11. There will be two protected stairs and an accommodation stair in the Manor Building. All protected stairs will discharge directly to the outside. The accommodation stair can remain open as the number of people using it are very limited. The distance of travel will be assessed in further design stages.
- 4.3.3 In mixed use buildings, separate means of escape should be provided from any storeys or parts of storeys used for the "residential" or "assembly and recreation" purpose groups (purpose groups 1, 2 and 5). In the Manor Building the purpose groups 2b and 5 exists, therefore these groups should be provided with separate exists. In the proposed design this will be provided, since Exit 4 and Exit 2 will only be used by the residential storeys of Manor Building.



Figure 11 – Manor Building's final exits on the Lower Ground Floor

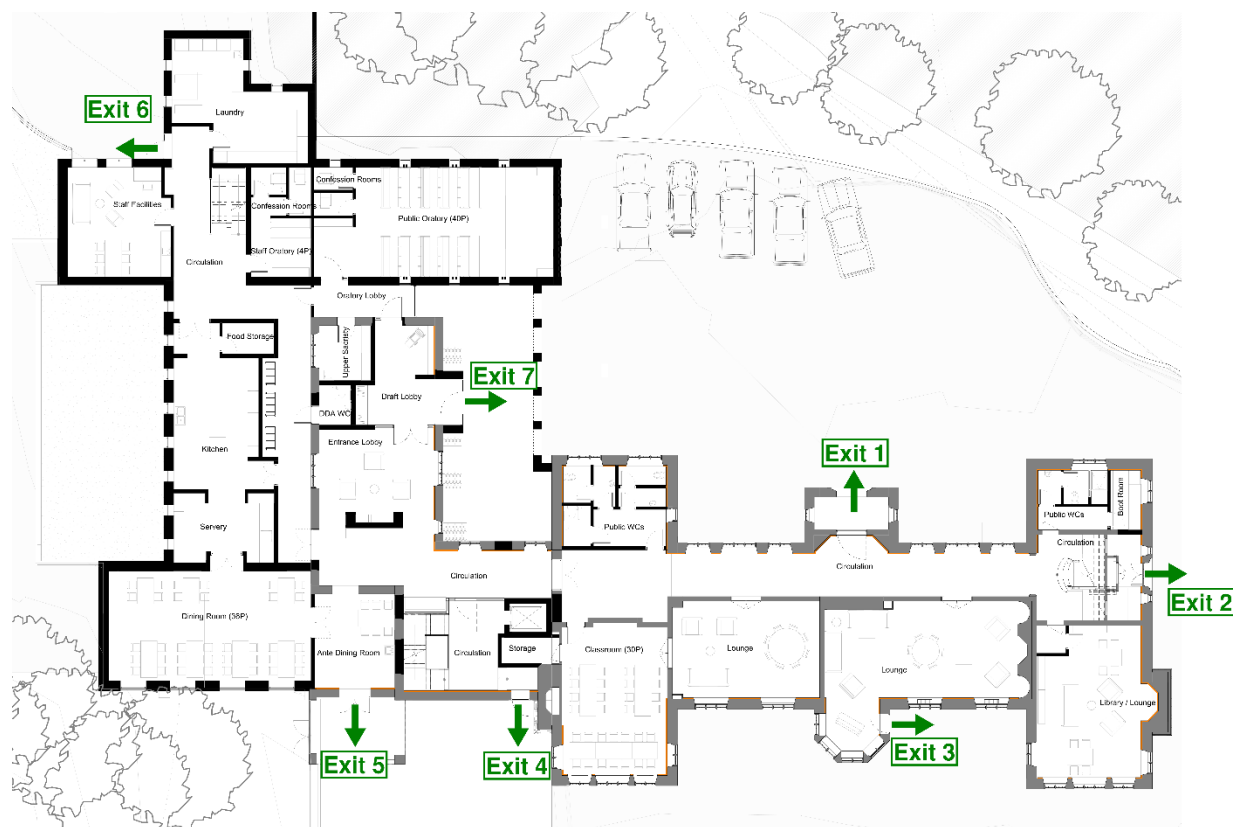


Figure 10 – Manor Building's final exits on the Ground Floor

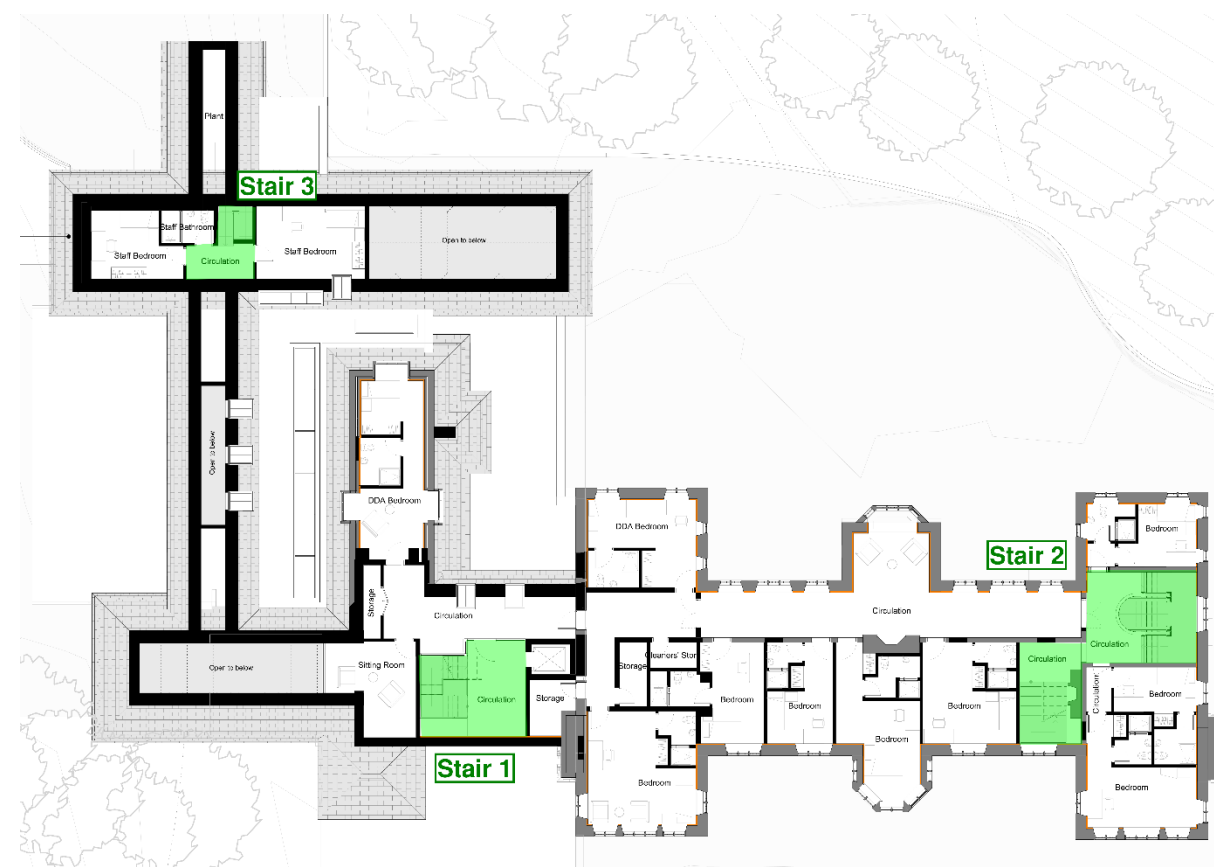


Figure 12 – Stairs of the Manor Building, shown on First Floor

4.3.4 The Lodge Building will be provided with 3 final exits from the Ground Floor as shown in Figure 13. There will be a single protected stair in the Lodge Building. The protected stair will discharge directly to the outside.

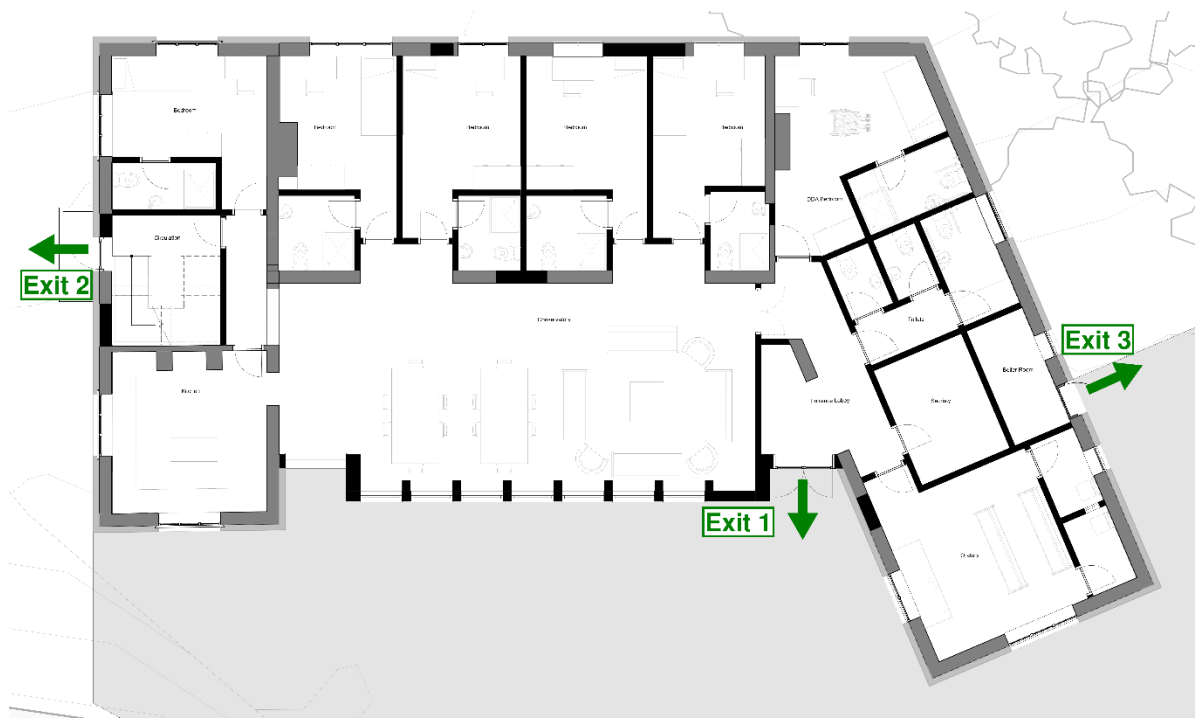


Figure 13 – Lodge Building's final exits on the Ground Floor

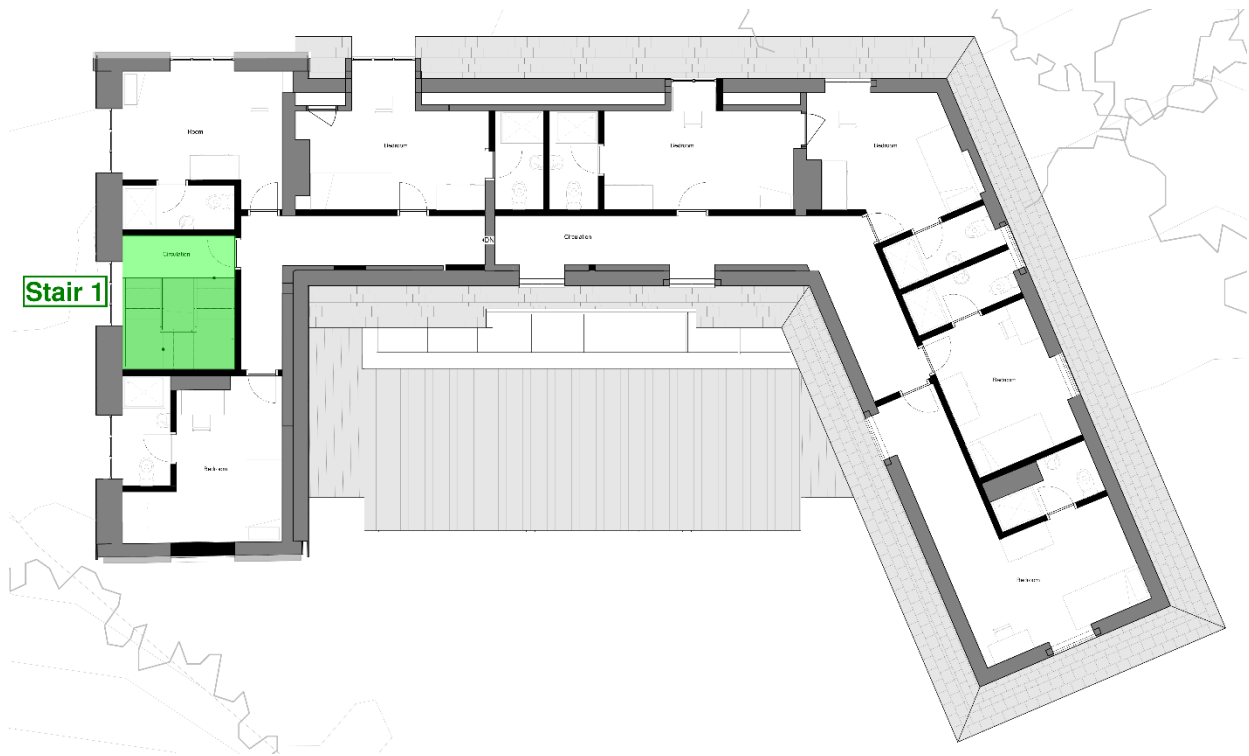


Figure 14 – Stair of the Lodge Building, shown on First Floor

4.3.5 The Stables Building will be provided with 7 final exits from the Ground Floor as shown in Figure 13. There will be a single external stair in the Stables Building.



Figure 15 – Stables Building's final exits on the Ground Floor

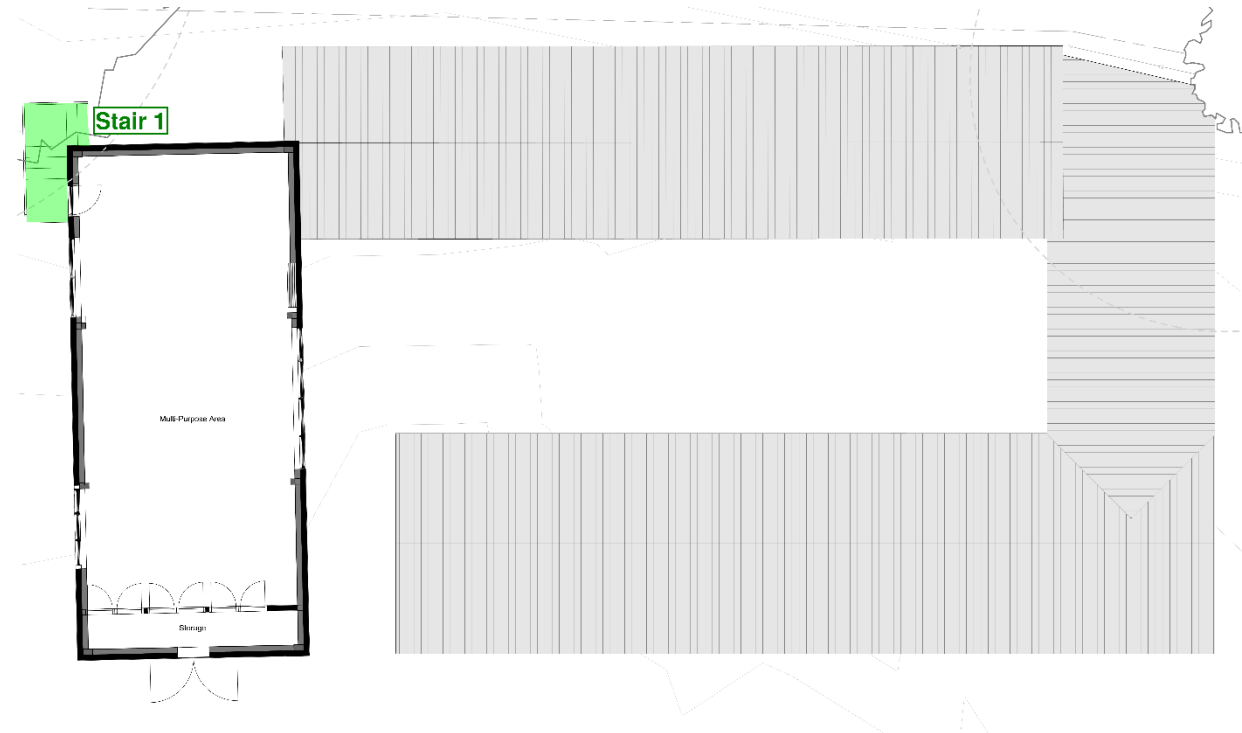


Figure 16 – Stair of the Stables Building, shown on First Floor

- 4.3.6 The clear width of the doors will be evaluated in the later design stages to assess the means of escape capacity for each level of the buildings corresponding to the estimated occupancy on each level. However, as per the initial assessment, it appears that the proposed final / storey exits are adequate for the proposed occupancy numbers.
- 4.3.7 A detailed assessment of the vertical evacuation will be conducted at a later design stage. However, as per the initial assessment the proposed stair widths appear to be adequate for the occupancy numbers on the upper ground levels.
- 4.3.8 An inner room is at risk if a fire starts in the access room (Figure 17). Such an arrangement should only be accepted if all the conditions stated in Section 2.11 of ADB Vol.2 are satisfied. The dining room on the Ground Floor of Manor Building is an inner room which satisfies the requirements.

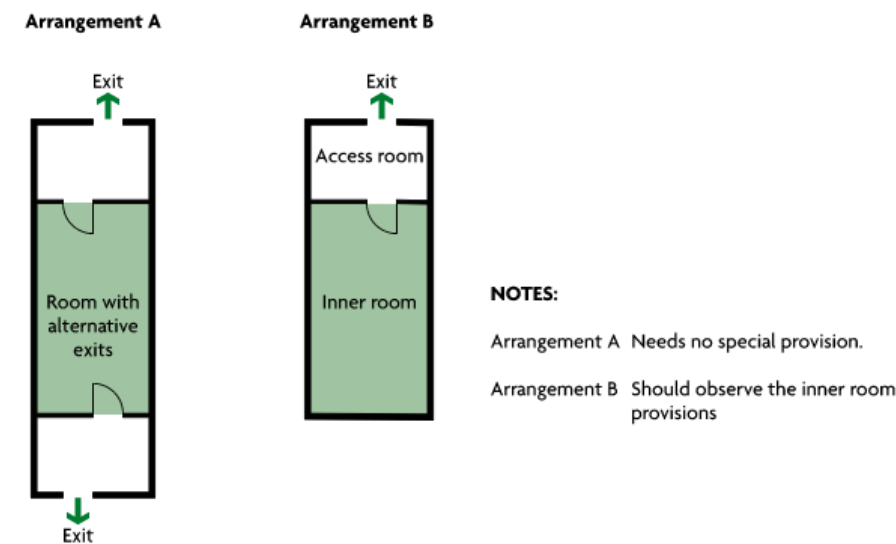


Figure 17 – Inner room and access room (Diagram 2.3 from ADB Vol.2)

- 4.3.9 Cross-corridor doors should be provided at around the midpoint of a corridor where two or more escape routes to storey exists are proposed and the internal corridor length exceeds 12 m. Two methods of providing this separating construction are indicated in Figure 18. Another method is enclosing the cavity on the lower side by a fire resisting ceiling that extends throughout the building, compartment or separated part.
- 4.3.10 Where dead ends of corridors exceeding 4.5 m long provide access to a point from which alternative escape routes are available, they should be separated by self-closing fire door sets (together with any associated screens) from any part of the corridor that either:
- Provides two directions of escape (Figure 19 - a)
 - Continues past one storey exit to another (Figure 19 - b)
- Alternatively, the stairs and corridors may be protected by a pressurisation system complying with BS EN 12101-6

[18].

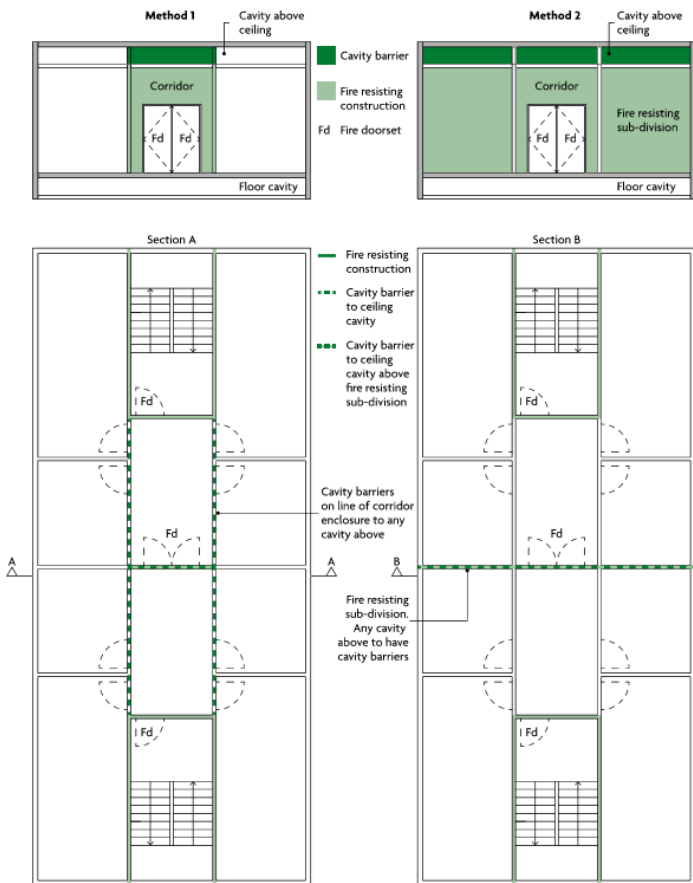


Figure 18 – Cross-corridor door recommendations (Diagram 2.9 from ADB Vol.2)

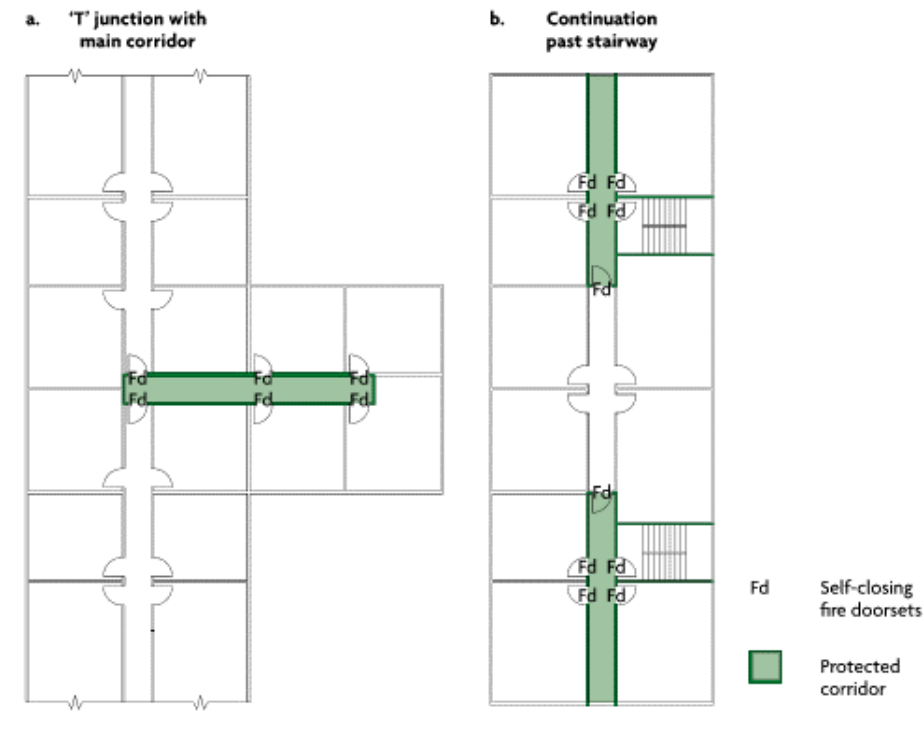


Figure 19 – Dead-end corridors exceeding 4.5 m long (Diagram 2.10 from ADB Vol.2)

Table 8 – Maximum travel distances

Purpose group	Escape in one direction only (m)	Escape in more than one direction (m)
Residential (other) – 2(b)		
- in bedrooms	9	18
- in bedroom corridors	9	35
- elsewhere	18	35
Assembly and recreation – 5		
- areas with seating in row	15	32
- elsewhere	18	45
Storage and other non-residential – 7(a) Normal hazard	25	45
Places of special fire hazard – 2-7	9	18
Plant room		
- Within the room	9	35
- Overall travel distance	18	45

Note 1 If the internal layout of partitions, fittings, etc. is not known, direct distances, rather than travel distances, should be assessed. The direct distance should be assumed to be two-thirds of the actual travel distance.

Table 9 – Escape route width and exit capacity

Maximum number of persons	Minimum width (mm) ^{Notes 1 and 2}
60	750 ^{Note 3}
110	850
220	1,050
More than 220	5 per person ^{Note 4}

Note 1 Widths may need to be increased to meet guidance in Approved Document M.

Note 2 Widths less than 1,050 mm should not be interpolated.

Note 3 May be reduced to 530 mm for gangways between fixed storage racking.

Note 4 5 mm/person does not apply to an opening serving fewer than 220 people.

4.4 Escape beyond the final exits

- 4.4.1 Travel beyond the buildings' final exits must be away from the building, towards a place of safety, and not be jeopardised by unprotected openings of the building. This is to be achieved through a combination of the following:
- External fire-rated construction provided to a minimum height of 1,100 mm above ground level where people are required to pass within 1,800 mm of an external wall;
 - Where final exits discharge within 1,800 mm of an external wall at 90° or less to the plane of the final exit, fire-rated construction will be provided to external walls within 1,800 mm of the final exit; and
 - Exit paths lead away from the building towards a secure location.
- 4.4.2 Assembly areas should be located such that they are located remotely from access routes for the FRS and evacuation from the building can be achieved without exposure to a hazard from a building fire. Defining the assembly area is an operator led exercise as part of the duties of the Responsible Person under the FSO.
- 4.4.3 Final exits should be dimensioned and sited to facilitate the evacuation of persons out of and away from the building. Accordingly, they should be of sufficient width for the number of people using the exit.
- 4.4.4 Final exits should be apparent to persons who might need to use them. This is particularly important where the exit opens off a stair that continues down, or up, beyond the level of the final exit.
- 4.4.5 Final exit doors should open into a place of ultimate safety (e.g. not into a roadway or, if so, adequate non-limiting safety barriers are provided). Such exits should be designed to avoid or minimize any risk of obstruction to rapid dispersal of persons from the vicinity of the building.

4.5 Means of escape for disabled occupants

- 4.5.1 It is envisaged that most disabled occupants will be able to escape to a place away from danger without assistance from trained fire wardens. However, there will be a certain proportion of building occupants, such as those who are non-ambulant (e.g., wheelchair users), who will not be able to negotiate stairs unaided. In these instances, an environment should be provided in which their safety can be assured for a given period of time (e.g., refuge areas) prior to being assisted to ultimate safety outside the building.
- 4.5.2 Final exits on the ground floor should be step free, such they can be used by disabled occupants unrestricted. If this is impracticable or undesirable, the arrangement should be suitably managed.
- 4.5.3 Disabled refuges should be provided to the stairs on upper storeys of the building. These refuges should achieve dimensions of at least 900 x 1,400 mm and be located within the protected stair enclosures. Disabled refuges should be provided with Emergency Voice Communication (EVC) systems in accordance with BS 5839-9 [19], including type B outstations which communicate to a master station located in the building control room (where one exists) or adjacent to the fire alarm panel.
- 4.5.4 It should be noted that under the Regulatory Reform (Fire Safety) Order 2005, it is the duty of the responsible persons along with their appointed safety assistants to assist everyone to a place of ultimate safety outside the building in the event of an emergency.
- 4.5.5 Any disabled occupant should have a Personal Emergency Evacuation Plan (PEEP) and the procedures should be practised. A Generic Emergency Evacuation Plan (GEEP) will need to be written for members of the public (e.g. visitors) who would need assistance to escape. Further information can be found in Approved Document M [20], BS 8300 [21] [22] and the DCLG Publication *Fire Safety Risk Assessment Supplementary Guide – Means of Escape for Disabled People*¹.

¹ <https://www.gov.uk/government/publications/fire-safety-risk-assessment-means-of-escape-for-disabled-people>

5 INTERNAL FIRE SPREAD

5.1 Internal linings

- 5.1.1 Wall and ceiling linings will achieve the surface spread of flame and fire classifications outlined in Table 10 at a minimum.
- 5.1.2 Thermoplastic materials, which do not comply with Table 10 (e.g., windows, rooflights, lighting diffusers, etc.) will comply with the recommendations of sections 6.13 to 6.18 of ADB Vol. 2.

Table 10 – Internal lining requirements

Location	European Class (BS EN 13501-1)
Small rooms in residential areas ≤4 m² Small rooms in non-residential areas ≤ 30 m²	D-s3, d2
Circulation spaces within bedrooms and other rooms	C-s3, d2
Other circulation spaces	B-s3, d2
Escape stair landings and flights	A2-s3, d2

5.2 Structural fire resistance, compartmentation and fire-resisting separation

- 5.2.1 The structural elements of the Manor Building will be provided with 60 minutes fire resistance. Floors will be designed as compartment floors achieving 60-minute fire resistance. The accommodation stair will not breach the compartment floor as it will be enclosed on the First Floor, and on Basement Level. It will be only open on the Ground Floor.
- 5.2.2 The Stair 2 will be provided with fire and smoke curtain to enclose it on the Ground Floor.
- 5.2.3 The structural elements of the Lodge and Stables Buildings will be provided with 30 minutes fire resistance.

Table 11 – Fire resistance

Element	Minimum fire resistance	Method of exposure
Structural elements (frame / beam / column) - The Manor Building - The Lodge and Stables Buildings	R 60 R 30	Exposed faces
Floors - The Manor Building - The Lodge and Stables Buildings	REI 60 REI 30	From underside
Compartment walls - The Manor Building - The Lodge and Stables Buildings	REI 60 REI 30	Each side separately
External walls (1 m or more from the relevant boundary) Note 1 - The Manor Building - The Lodge and Stables Buildings	RE 60, I 15 RE 30, I 15	From inside
External wall within 1.8 m of an external escape route	RE 30	From inside
Protected shafts – stairs, risers, lifts - The Manor Building - The Lodge and Stables Buildings	REI 60 REI 30	Each side separately
Plant rooms: - Life safety equipment; - High risk - Low risk	REI 120 REI 60 REI 30	Each side separately
Commercial kitchens	REI 30	Each side separately
Store and Laundry rooms	REI 30	Each side separately
Library	REI 30	Each side separately
Bedroom corridors	REI 30	Each side separately
Cavity barriers	E 30, I 15	Each side separately

Note 1 Relative to any part that needs to be fire resisting as a result of space separation requirements e.g. parts of, or all of the elevation may be permitted to be non-fire resisting depending on the available distance to the boundary. See Section 6.3 for details.

5.3 Fire doors and escape doors

- 5.3.1 Fire doors will be provided in accordance with Table 12. Fire door assemblies will comply with:
- BS 476-22 [23] or BS EN 1634-2 [24] for fire resistance; and, where applicable
 - BS 476-31 [25] or BS EN 1634-3 [26] for smoke leakage.
- 5.3.2 All doors on escape routes will either not be provided with a securing device or be provided with a securing device that is easily openable without the use of a key and without having to manipulate more than one mechanism. The escape provisions will be coordinated with the security / access design.
- 5.3.3 Doors opening onto stairways or corridors will be sited not to encroach on the effective width of any stairway, landing or corridor.

Table 12 – Fire doors

Door location	National Class	European class
Bedroom or cross-corridor	FD30S	E 30 S _a
Doors in protected shafts (risers, stairs, lifts)	½ fire resistance of the wall they are fitted in with smoke seals (lift doors do not require smoke seals)	
Other areas	The same fire rating as the wall they are fitted in	

5.4 External walls of protected stairways

- 5.4.1 If a protected stairway projects beyond, is recessed from or is in an internal angle of the adjoining external wall of the building, then the minimum distance between an unprotected area of the building enclosure and an unprotected area of the stair enclosure should be 1,800 mm as indicated in Figure 20.

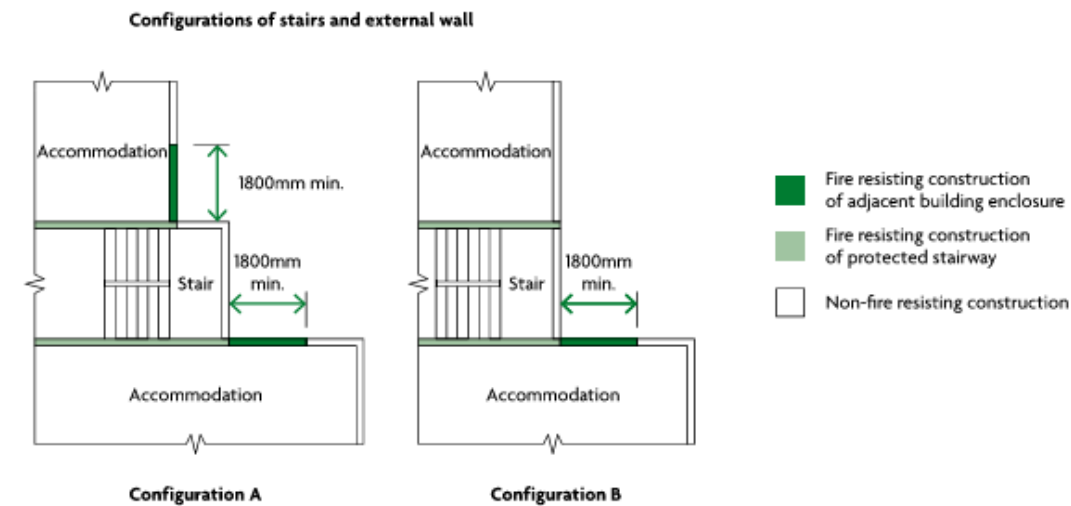


Figure 20 – External protection to protected stairways (Diagram 3.3 from ADB Vol.2)

5.5 Fire-stopping and penetrations through fire-separating elements

- 5.5.1 Every joint, imperfect fit and opening for services through a fire-separating element will be sealed with fire-stopping to ensure that the fire resistance of the element is not impaired.
- 5.5.2 All pipes, ductwork and services passing through fire-resisting barriers will be penetration-sealed with an appropriate system and / or fire damper which has been shown by test or assessment to maintain the period of the fire-resistance of the barrier.

5.6 Cavity barriers

- 5.6.1 Extensive concealed cavities (e.g., roof voids or the void between suspended ceilings and the soffit of the floor above) require cavity barriers to sub-divide them. If internal sub-divisions and all internal walls are proposed to extend up to soffit level (i.e., underside of the slab overhead), then there will be limited extensive internal cavities.
- 5.6.2 Cavity barriers are to be installed in accordance with Diagram 9.1 of ADB Vol 2.

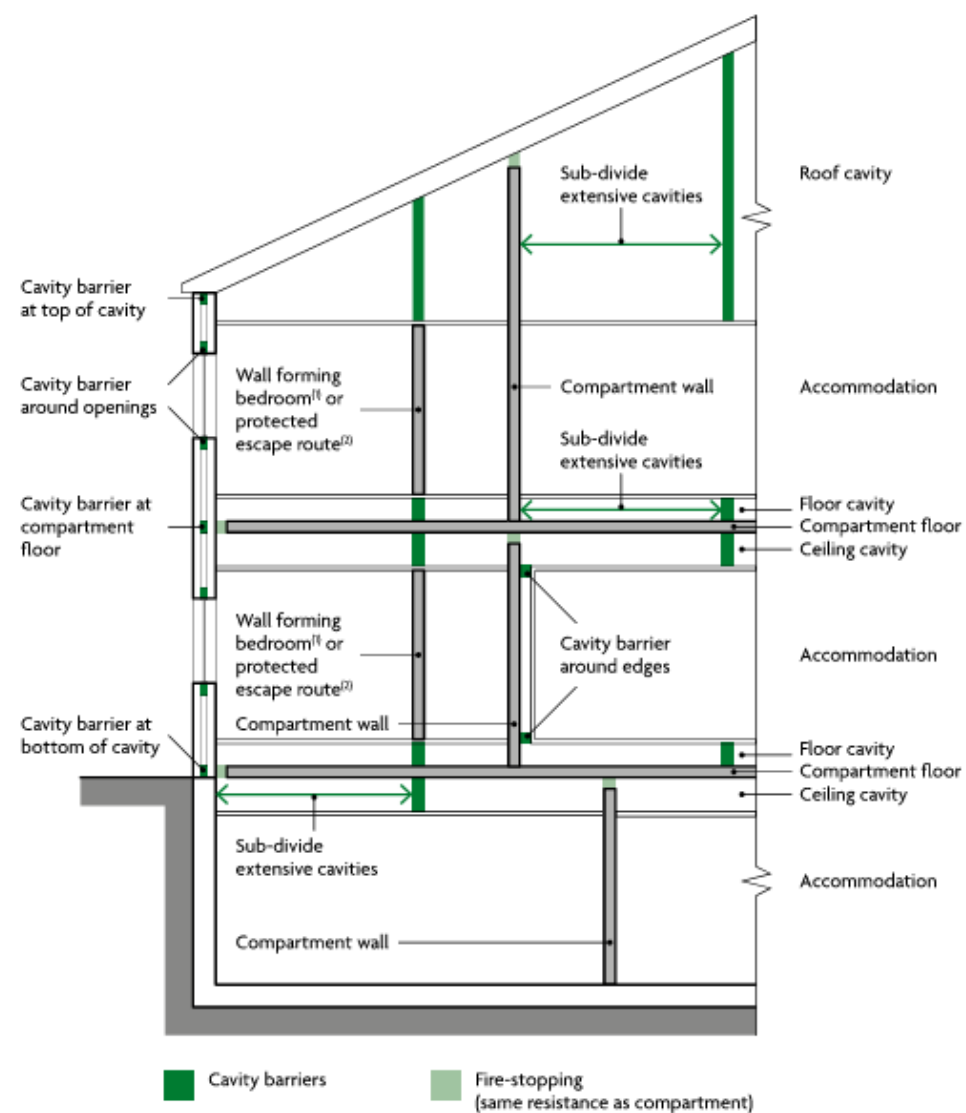


Figure 21 – Cavity barrier locations (Diagram 9.1 from ADB Vol.2)

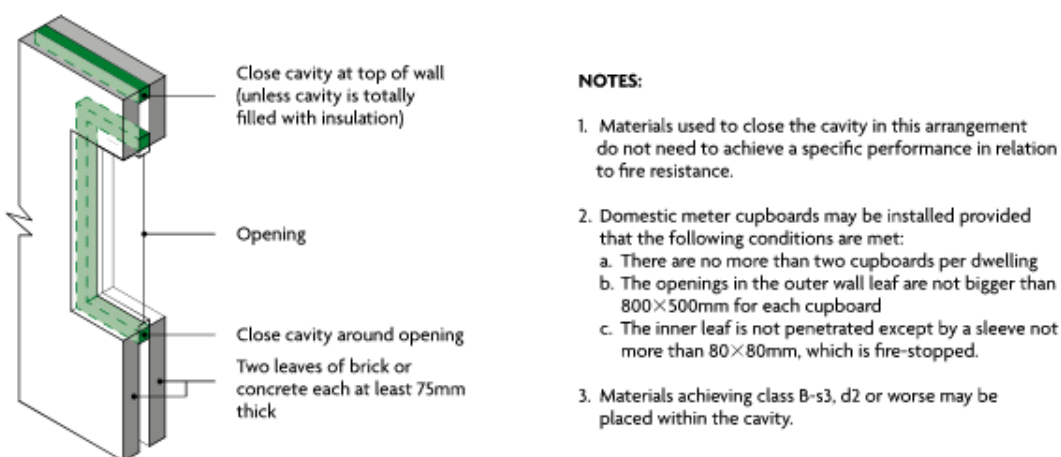


Figure 22 - Cavity wall excluded from provisions for cavity barriers (Diagram 9.2 from ADB Vol.2)

6 EXTERNAL FIRE SPREAD

6.1 External surfaces and wall materials

- 6.1.1 External walls will be constructed such that they will not support fire spread at a speed that is likely to threaten people in or around the building.
- 6.1.2 External wall surfaces near other buildings will not be readily ignitable, to avoid fire spread between buildings.
- 6.1.3 Thermal breaks (thermal bridging elements) will not span two compartments. There is no minimum performance for the materials used, however, it is recommended to encapsulate the thermal breaks with compressed mineral wool insulation in accordance with BS 8579 guidance.

6.2 Roof coverings

- 6.2.1 Roof coverings will be designated in accordance with Table 13. Recommendations given in this table are not exhaustive as dispensations are provided in ADB Vol.2.
- 6.2.2 Where a compartment wall meets a roof, a zone of roof 1.5 m wide on either side of the wall will have a covering of designation B_{ROOF}(t4) (European class) on a substrate or deck of a material of limited combustibility.
- 6.2.3 Any photovoltaic (PV) panels installed at the buildings will include a firefighter’s switch provided at Ground floor level that would remotely isolate the PV panels. Alternatively, the cabling from the PV panels will be routed to the electrical board via a route that would ensure the live cables do not pose a hazard to firefighting conducting wet operations within the building.

Table 13 – Roof covering limitations

Designation of roof or part	Distance from relevant boundary ^{Note}			
European Class	<6 m	≥6 m	≥12 m	≥20 m
B _{ROOF} (t4)	Acceptable	Acceptable	Acceptable	Acceptable
C _{ROOF} (t4)	Not Acceptable	Acceptable	Acceptable	Acceptable
D _{ROOF} (t4)	Not Acceptable	Not Acceptable	Not Acceptable	Acceptable
E _{ROOF} (t4)	Not Acceptable	Not Acceptable	Not Acceptable	Not Acceptable
F _{ROOF} (t4)	Not Acceptable	Not Acceptable	Not Acceptable	Not Acceptable

Note Recommendations given in this table are not exhaustive as dispensations are provided in ADB2, including for roof lights

6.3 Space separation and unprotected areas of the external walls

- 6.3.1 Should a fire occur in a building, heat will radiate through non-fire resisting openings in the external walls. This heat can be enough to set fire to nearby buildings. In order to reduce the likelihood of this occurring, the Building Regulations place limits on the area of the external elevation with no fire resistance. This area is known as the unprotected area. The distance of the building from other buildings, the use of the building and the compartment size are all factors in determining the acceptable degree of unprotected area for each elevation.
- 6.3.2 As compartmentation will be provided, fires may be assumed to be confined to a single compartment.
- 6.3.3 As the buildings are under same management organisation and under simultaneous evacuation, the external fire spread limitations are not required on the buildings within the site. The site boundaries are located at a considerable distance from the buildings, and it is expected that the façades will not require external fire protection. However, a full external fire spread calculations will be carried out as part of a formal fire safety strategy document in support of the Building Regulations 2010 approvals process.

7 ACCESS AND FACILITIES FOR FIREFIGHTING

7.1 Overview

- 7.1.1 In the event of fire, initial firefighting operations may be attempted by a suitable trained member of staff. The fire and rescue service (FRS) will be notified by an authorised member of staff and the FRS should be met by a member of staff when they arrive.
- 7.1.2 The fire alarm panel should be located within a suitable location near an entry point into the buildings.

7.2 Vehicle access to and around the site

- 7.2.1 Fire and rescue service access to and around the site is understood to be via the adjacent roads. The route to the building should be appropriate for the appliance access requirements, including sufficient turning facilities, typical values noted in Table 14. Specific local requirements should be confirmed with the local FRS. It must be ensured that a fire service vehicle may enter this location and it is anticipated that this will be by the Establishment unlocking secure doors, as necessary, to allow entry. Dead-ends should not exceed 20 m in length.

Table 14 – Typical FRS vehicle access route specification

Element	Pump
Width between kerbs	3.7 m
Width between gateways	3.1 m
Turning circle between kerbs	16.8 m
Turning circle between walls	19.2 m
Clearance height	3.7 m
Carrying capacity	12.5 tonnes

7.3 Access into and through the building

- 7.3.1 Access through the buildings will be available via the vertical and horizontal circulation routes. It is anticipated that access will be provided by the building management unlocking secure doors, as necessary, to allow entry.
- 7.3.2 According to Section 15.1 of ADB Vol.2, as the Lodge and Stables buildings have a top storey that is a maximum of 11 m above ground level and the total floor area of each building is less than 2,000 m², vehicle access for a pump appliance should be provided to whichever is the less onerous of the following:
- At least 15% of the building perimeter
 - Within 45 m of every point of the footprint of the building
- 7.3.3 As the Manor building is not fitted with fire mains, it should provide access to a pump vehicle for 15% of its perimeter according to Table 15.1 of ADB Vol.2. According to the provided drawings this is expected to be achieved.

7.4 Water supplies

- 7.4.1 Water supplies for fire and rescue service operations are confirmed as available from the existing hydrant (see Figure 23) near the site by WSFRS (West Sussex Fire and Rescue Service). As the distance from this hydrant to the buildings are exceeding the limit of 100 m, this situation will be consulted with the WSFRS.
- 7.4.2 It is also confirmed that WSFRS inspect all their fire hydrants every 2-3 years.

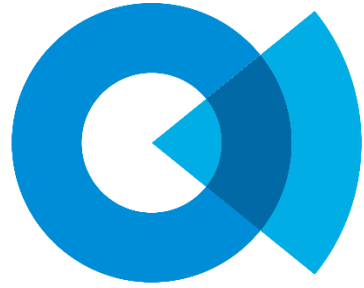


Figure 23 – Location of the existing fire hydrant (FH-015003)

8.1 Future development of the asset and the 'Golden thread' of information

- 8.1.1 The 'Golden Thread' refers to a concept where the fire safety information of a building is to be updated and maintained through the whole life cycle of the building. The fire safety information will be maintained and updated as the development evolves in line with the principles of the golden thread.
- 8.1.2 Under Regulation 38 of the Building Regulations, a fire safety strategy report will form part of the information handed over to the management company to enable them to be effective.
- 8.1.3 Those fire safety elements identified within the fire safety strategy report may only be modified following suitable review and approval under the Building Regulations by a building control body.
- 8.1.4 The Regulatory Reform (Fire Safety) Order 2005 (FSO) places a legal obligation on management. Under the Order, the responsible person must carry out a fire safety risk assessment and implement and maintain a fire management plan. In workplaces, the responsible person is the employer. Or anyone who has an extent of control over the premises. Some Examples include a branch manager, building supervisor, facilities management company, etc.
- 8.1.5 Building management will develop fire safety plans, fire safety manuals, a management and evacuation plan, an emergency information pack for the fire and rescue service. The information will be kept up to date. Management of fire safety must be integrated with all other management systems.
- 8.1.6 Management systems will also include procedures for anticipating and taking into account, either on a permanent or a temporary basis, changes to the occupancy (e.g. number of occupants, familiarity of occupants, etc) and /or fire growth characteristics (e.g., types of combustibles including fire growth rates, quantity of combustibles, storage/use of combustibles including high risk items, etc.) of the building and its contents over the life cycle of the building.
- 8.1.7 Maintenance and testing are essential to ensure that the fire safety systems will operate correctly in the event of a fire. Good housekeeping will be encouraged to ensure that the effectiveness of the fire safety provisions are not adversely affected.

- [1] MHCLG, “Approved Document B, Volume 2: Buildings other than dwellinghouses (2019 edition incorporating 2020 & 2022 amendments - for use in England),” NBS for the Department for Communities and Local Government, London, 2022.
- [2] BSI, “BS 9999:2017 Code of practice for fire safety in the design, management and use of buildings,” British Standards Institution, London, 2017.
- [3] BSI, “BS 7974:2019 Application of fire safety engineering principles to the design of buildings. Code of practice,” British Standards Institution, London, 2019.
- [4] BSI, “BS 5839-1:2017 Fire detection and fire alarm systems for buildings - Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises,” British Standards Institution, London, 2017.
- [5] BSI, “BS 8524-1 Active Fire Curtain Barrier Assemblies - Part 1: Specification,” 2020.
- [6] BSI, “BS 8524-2 Active Fire barriers - Part 2: Code of practice for application, installation and maintenance,” 2020.
- [7] BSI, “BS 5266-1:2016 Emergency lighting. Code of practice for the emergency lighting of premises,” British Standards Institution, London, 2016.
- [8] BSI, “BS EN 1838:2013 Lighting applications. Emergency lighting,” British Standards Institution, London, 2013.
- [9] BSI, “BS EN 60598-2-22:2014+A1:2020 Luminaires - Particular requirements. Luminaires for emergency lighting,” British Standards Institution, London, 2020.
- [10] BSI, “BS 5499-4:2013 Safety signs. Code of practice for escape route signing,” British Standards Institution, London, 2013.
- [11] BSI, “BS 5499-10:2014+A1:2023 Guidance for the selection and use of safety signs and fire safety notices,” British Standards Institution, London, 2023.
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- [13] BSI, “BS 8519:2020 Selection and installation of fire-resistant power and control cable systems for life safety and fire-fighting applications - Code of practice,” British Standards Institution, London, 2020.
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- [15] BSI, “BS EN 3-7:2004+A1:2007. Portable fire extinguishers. Characteristics, performance requirements and test methods,” British Standards Institution, London, 2004.
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- [17] BSI, “BS 5306-3:2017 Fire extinguishing installations and equipment on premises. Commissioning and maintenance of portable fire extinguishers. Code of practice,” British Standards Institution, London, 2017.
- [18] BSI, “BS EN 12101-6:2005 Smoke and heat control systems - Specification for pressure differential systems. Kits,” British Standards Institution, London, 2005.
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- [21] BSI, “BS 8300-1:2018 - Design of an accessible and inclusive built environment. External environment - code of practice,” British Standards Institution, London, 2018.
- [22] BSI, “BS 8300-2:2018 - Design of an accessible and inclusive built environment. Buildings - code of practice,” BSI, London, 2018.
- [23] BSI, “BS 476-22:1987 Fire tests on building materials and structures. - Part 22: Methods for determination of the fire resistance of non-loadbearing elements of construction,” British Standards Institution, London, 1987.
- [24] BSI, “BS EN 1634-2:2008 Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware. Fire resistance characterisation tests for elements of building hardware,” British Standards Institution, London, 2008.
- [25] BSI, “BS 476-31-1:1983 Fire tests on building materials and structures. - Part 31: Methods for measuring smoke penetration through doorsets and shutter assemblies. Section 31.1 Method of measurement under ambient temperature conditions.,” British Standards Institution, London, 1983.
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