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Fire Strategy Plan Review of an Attic Refurbishment at Reddam House – Early Learning School.

DOC REF | 2026-06-19 Reddam House ELS Attic Fire Strategy

Version – 01
Status - Issued

This report takes into account the particular
instructions and requirements of our client

It is not intended for and should not be relied
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Report Detail

Project – Fire Strategy Plan Review of an attic refurbishment to an early learning school

Address – Reddam House – Early Learning School, Bearwood Road, Sindlesham, Wokingham, RG41 5BG.

Document – Fire Strategy Plan review

Filename – DOC REF | 2026-06-19 Reddam House ELS Attic Fire Strategy

Version 01

Report Version History

Version	Status	Date Issued	Comment	Prepared By
01	Issued	19/06/26	Issued following draft report feedback	DB

DB – David Bromley MIFSM, CFRAR

Director

Certified Fire Risk Assessor – National Fire Risk Assessors Register

This report was carried out by David Bromley MIFSM, CFRAR, Director of One Stop Fire Solutions, and a Certified Fire Risk Assessor listed on the National Fire Risk Assessors Register. David has 36 years of fire-related experience. He has spent 12 years within a Legalistic Fire Safety Department of a large Metropolitan Fire Service, mostly on enforcement and Licensing work and also as head of technical fire safety. Since retiring in 2020 he has developed his private business and assisted the private sector with new build and retrospective fire strategies, to gain compliance when enforcement action and routine fire risk assessments.

He has completed the Fire Safety Inspectors course, the Fire Safety Building Regulations and Guidance Course, the Fire Safety in Building Design BS9999 course, the Fire Engineering Detection Principles course and the Fire Safety Advisor Engineer Development course all held at the National Fire Service College. The BIIAB Level 1 Award in Assessment of Licensed Premises (Social Responsibility), the BIIAB Unit 2 Legislative Requirements and Assessing Licensed Premises and the BIIAB Level 2 National Certificate for Licensing Practitioners. The BTEC Advanced Award in Fire Risk Management. He also holds the Graduate of the Institute of Fire Engineers, The Royal Institute of Public Health and Hygiene, and the Institute of Occupational Safety and Health. He has completed the full suite of courses run by the Association for Petroleum and Explosives Administration including Construction, Safety and Environmental Protection course and Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR). He has also obtained qualified fire door inspector. In January 2026 David successfully completed the Level 4 Award in Medium Risk Fire Risk Assessment

This report should not be manipulated, changed or presented without the consent of One Stop Fire Solutions Ltd.

This report has been prepared for the sole benefit, use and information for this project only. It is formulated and based on the information and experience available at the time of preparation. It is applicable to the above-mentioned project only in accordance with the client's instructions. It is only valid provided no other modifications are made other than those for which a formal opinion has been sought and given by One Stop Fire Solutions Ltd.

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1. Document Overview

1.1. Executive Summary

- 1.1.1. One Stop Fire Solutions Ltd has been appointed by Inspired Education to prepare a design-stage Fire Strategy for an attic refurbishment at Reddam House – Early Learning School, Bearwood Road, Sindlesham, Wokingham, RG41 5BG.
- 1.1.2. The subject of this strategy is a Grade II* Listed historic building. The scope of work involves a material change of use of the first-floor attic space from a storeroom into an early years learning environment, alongside localized internal layout modifications and the installation of a new external exit door and external escape staircase.
- 1.1.3. This strategy assesses the proposed works against the functional requirements of Schedule 1 – Part B of the Building Regulations 2010 (as amended) under the framework of Regulation 4 (Requirements relating to building work). It demonstrates that the new works comply fully with modern life safety objectives without rendering the existing building less satisfactory.
- 1.1.4. Because these works constitute a material change of use to an occupied space, Regulation 38 is a mandatory statutory requirement. This document serves as the foundation of the definitive fire safety information package that must be handed over to the designated Responsible Person prior to occupation.
- 1.1.5. This document is prepared to support discussion and agreement in principle with the Building Control Body and the Fire Authority. It establishes the design philosophy, operational assumptions, and passive/active fire safety benchmarks required to facilitate safe ongoing occupation and to form the basis of a compliant post-completion Fire Risk Assessment.

1.2. Scope

- 1.2.1. The scope of this document is limited to a desk-based review of the submitted plans and documents provided by the client. It does not include a site survey or intrusive investigation. It assumes that hidden elements of structure (such as floor voids and service risers) maintain the fire-resisting integrity required for compartmentation.

Plan Drawing/ Document Number	Date
RDELS-HAP-PD10-00ZZ-DR-A-10000-Existing Plan - Ground Floor	18 th June 2026
RDELS-HAP-PD10-01ZZ-DR-A-10001-Existing Plan - Attic	18 th June 2026
RDELS-HAP-PD12-00ZZ-DR-A-12000-Proposed Plan - Ground Floor	18 th June 2026
RDELS-HAP-PD12-01ZZ-DR-A-12001-Proposed Plan - Attic	18 th June 2026
260528_Sketchbook 01_Existing Information Low Res	28 th May 2026

Document used to assess means of escape	Approved Document B (Fire Safety) Volume 2: Buildings other than dwellings (2019 edition incorporating the 2020, 2022, and 2025 amendments, and collated with the 2026 and 2029 amendments). Building Bulletin 100 (BB 100): Fire Safety Design for Schools (with additional compliance considerations addressed where appropriate for early learning environments).
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Purpose Group	Assembly and recreation, Group 5.
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1.3. Limitations

- 1.3.1. Compliance with the recommendations of this Fire Strategy will reduce the likelihood and consequences of fire but does not guarantee that a fire will not occur. It is assumed that fire is an accidental event involving a single seat of fire.
- 1.3.2. The design of mechanical and electrical fire safety systems (including fire detection, emergency lighting, and smoke control) is a specialist discipline. Recommendations in this report define performance objectives; detailed specification and installation must be undertaken by certified specialist designers in accordance with British Standards.
- 1.3.3. For the purposes of this strategy, it is assumed that fire is an accidental event involving a single seat of fire. No account is taken of deliberate or malicious ignition; however, the fire safety measures provided, including compartmentation, detection, alarm and means of escape provisions, will also reduce the risk and consequences of such events.
- 1.3.4. This strategy does not rely on operational intervention by the Fire and Rescue Service to maintain tenable conditions for evacuation. Occupant life safety is based on independent evacuation using the provided means of escape, heavily supported by staff-led evacuation procedures tailored to young children. Measures intended solely for property protection or business continuity fall outside the scope of this document.

1.4. Primary Legislation

The primary fire safety legislation applicable to this development is:

- The Building Regulations 2010 (as amended) – design and construction stage
- The Regulatory Reform (Fire Safety) Order 2005, the Fire Safety Act 2021 and Building Safety Act 2022) – applicable during occupation

1.4.1. The Building Regulations 2010

The fire safety provisions for the building are required to satisfy the functional requirements of Schedule 1 – Part B (Fire Safety) of the Building Regulations 2010 (as amended).

In the context of this project, which comprises internal refurbishment works alongside localised external structural alterations, compliance is assessed against the functional requirements for an existing building under Regulation 4 (Requirements relating to building work), taking account of the building's age, form and constraints, rather than full prescriptive new-build compliance under Regulation 6. The strategy demonstrates that the new works comply fully and that the building as a whole is not rendered less satisfactory in relation to fire safety.

The functional requirements addressed are:

- Requirement B1 – Means of Warning and Escape.
- Requirement B2 – Internal Fire Spread (linings).
- Requirement B3 – Internal Fire Spread (structure).
- Requirement B4 – External Fire Spread. (Note: This assessment assumes the external envelope remains unchanged except for the formation of the elevated exit door and associated external escape staircase).
- Requirement B5 – Access and Facilities for the Fire Service.

Approved Document B, Volume 2 and supporting British Standards are used as guidance to demonstrate reasonable provision. Where appropriate, the risk-based methodology of BS 9999:2017 may be applied to address specific site constraints common to heritage buildings. Where full prescriptive compliance is not achievable, a risk-based and equivalency approach is adopted to demonstrate that the functional objectives are satisfied.

Responsibility for determining compliance with the Building Regulations rests with the Building Control Body (Local Authority Building Control or Registered Building Control Approver).

1.4.2. Regulatory Reform (Fire Safety) Order 2005

During occupation, the building is subject to enforcement by the Local Fire Authority. Responsibility for compliance rests with the Responsible Person, who must ensure that a suitable and sufficient Fire Risk Assessment is carried out, recorded in full (as per Section 156 of the Building Safety Act 2022), and regularly maintained.

This Fire Strategy supports the Responsible Person by:

- Defining the fire safety design philosophy
- Identifying the fire safety measures required
- Providing information to support a compliant Fire Risk Assessment

Information identified within this strategy is intended to form part of the Fire Safety Information required under Regulation 38 of the Building Regulations 2010 (as amended).

1.5. Fire Safety Objectives

1.5.1. The fire safety objectives of this strategy are to ensure that, in the event of fire:

- **Occupant life safety** is maintained such that all persons can escape to a place of ultimate safety without being exposed to untenable conditions. This satisfies the functional requirements of Part B1, B2 and B3 of the Building Regulations 2010 (as amended).
- **Structural stability and fire spread control** are provided such that the building will not collapse prematurely and fire spread to adjacent property by radiation is limited. This satisfies the functional requirements of Part B3 and B4 of the Building Regulations 2010 (as amended).
- **Firefighter safety and operational effectiveness** are supported by providing reasonable facilities for access, firefighting and rescue. This satisfies the functional requirement of Part B5 of the Building Regulations 2010 (as amended).

1.6. Variations from Prescriptive Guidance considered acceptable.

1.6.1. At the time of preparation, no variations from the prescriptive guidance in Approved Document B or Building Bulletin 100 (BB 100) have been identified for the scope of works described within this Fire Strategy.

2. Principle Building Characteristics

2.1. Site Location

2.1.1. The building is located at Bearwood Road, Sindlesham, Wokingham, RG41 5BG.



Figure 1: Site location plan

2.2. Building Description

- 2.2.1. The building under assessment is a historic two-storey structure arranged around a central courtyard. The ground floor consists of various established uses associated with an early learning school, while the first-floor attic space (the subject of this strategy) will be utilised as a learning environment for approximately 16 children aged 2–3 years old. The staff-to-child ratio will be 1:4, which ensures a high level of operational supervision during an egress event .
- 2.2.2. The building is a traditional two-storey structure comprising a ground floor and a first-floor attic space. The finished floor level of this top storey is less than 4.5 metres above the adjacent ground level. In terms of primary construction, the property features traditional solid masonry external walls with a timber-framed pitched roof envelope.
- 2.2.3. The first floor will consist of two small learning spaces with the main area measuring 40m² and the secondary area measuring 16m². There will also be two small store rooms and two toilet facilities. The main room features a sloped ceiling profile matching the roof pitch, with natural light and ventilation provided by existing vertical dormer windows facing into the courtyard area.

2.2.4. Historical and Heritage Context

The Bearwood Estate was established in the nineteenth century by the Walter family, founders and owners of The Times newspaper. The grand country house and its surrounding estate buildings were constructed between 1865 and 1874 to the designs of the prominent Victorian architect Robert Kerr. Nikolaus Pevsner, in his *Buildings of England*, famously described the estate as, "in its brazen way, one of the major Victorian monuments of England."

The specific building complex under assessment forms the original mid-to-late nineteenth-century stable block, situated approximately 250 metres north-west of the main mansion house. Characterised by its traditional U-shaped plan, the building features robust red brick construction with stone dressings, built entirely from bricks fired in the original estate kilns.

The ranges enclose a central stable yard, which is entered via the west drive between distinctive brick gate piers. The entire complex is statutorily listed by Historic England as Grade II* (with group value) as a highly significant example of High Victorian domestic and estate planning. The first-floor attic space, which originally served as auxiliary estate accommodation within the roof pitches, is the specific focus of this refurbishment and conversion strategy.

To provide a complete appreciation of the architectural character and layout of the building, the photographic and illustrative views have been included within the text boxes below. The photograph captures the external historic features of the range, while the three-dimensional representation clearly identifies the context of the works, confirming that the specific area of refurbishment is confined solely to the first-floor attic space highlighted in blue within the courtyard complex.



Figure 2: General photograph and illustrative view of attic area

3. B1 - Means of Warning and Escape

3.1. Evacuation Philosophy

- 3.1.1. The evacuation strategy for this building is simultaneous.
- 3.1.2. In the event of a fire, occupants will be alerted either by the direct discovery of fire or by the activation of the automatic fire detection and alarm system, which will provide an immediate warning throughout the premises. Upon hearing the alarm, all occupants will evacuate simultaneously via the designated escape routes to a place of ultimate safety.
- 3.1.3. When considering the means of escape, due regard has been given to the building's historic construction, Grade II listing, and long-established use. Over the years standards of fire detection, emergency lighting, staff training, and management procedures have improved and now provide a significantly enhanced level of life safety when compared with the original building design. These factors are integral to the overall fire safety strategy.
- 3.1.4. In relation to this particular section of the building, safe evacuation is achieved through a combination of enhanced systems, new layout benefits, and managed procedures.
- 3.1.5. The building is provided with a Category L2 fire alarm system. Consequently, occupants will be given a very early warning of a fire, which in turn maximises the available safe egress time. Upon activation of the fire alarm, staff will commence escorting and transferring children to the protected landing at the top of the stairs.
- 3.1.6. Within the stair enclosure, there is an extremely short travel distance due to the final exit door being positioned in line with the half-landing, which has the effect of halving the distance to a place of safety in fresh air. Due to this shortened vertical path, the staff-to-child ratio could allow personnel to form an efficient chain and pass the children down the stairs to the next level and out to fresh air, where they will utilise the same process again.
- 3.1.7. Once clear of the building the current assembly point is at the top of the stage ½ garden.
- 3.1.8. Once in occupation, a simulated evacuation exercise will take place to ensure that the strategy is robust, verifiable and evidence-based.

3.2. Horizontal Means of Escape

3.2.1. Ground Floor

Escape from the ground floor area of this section remains unchanged.

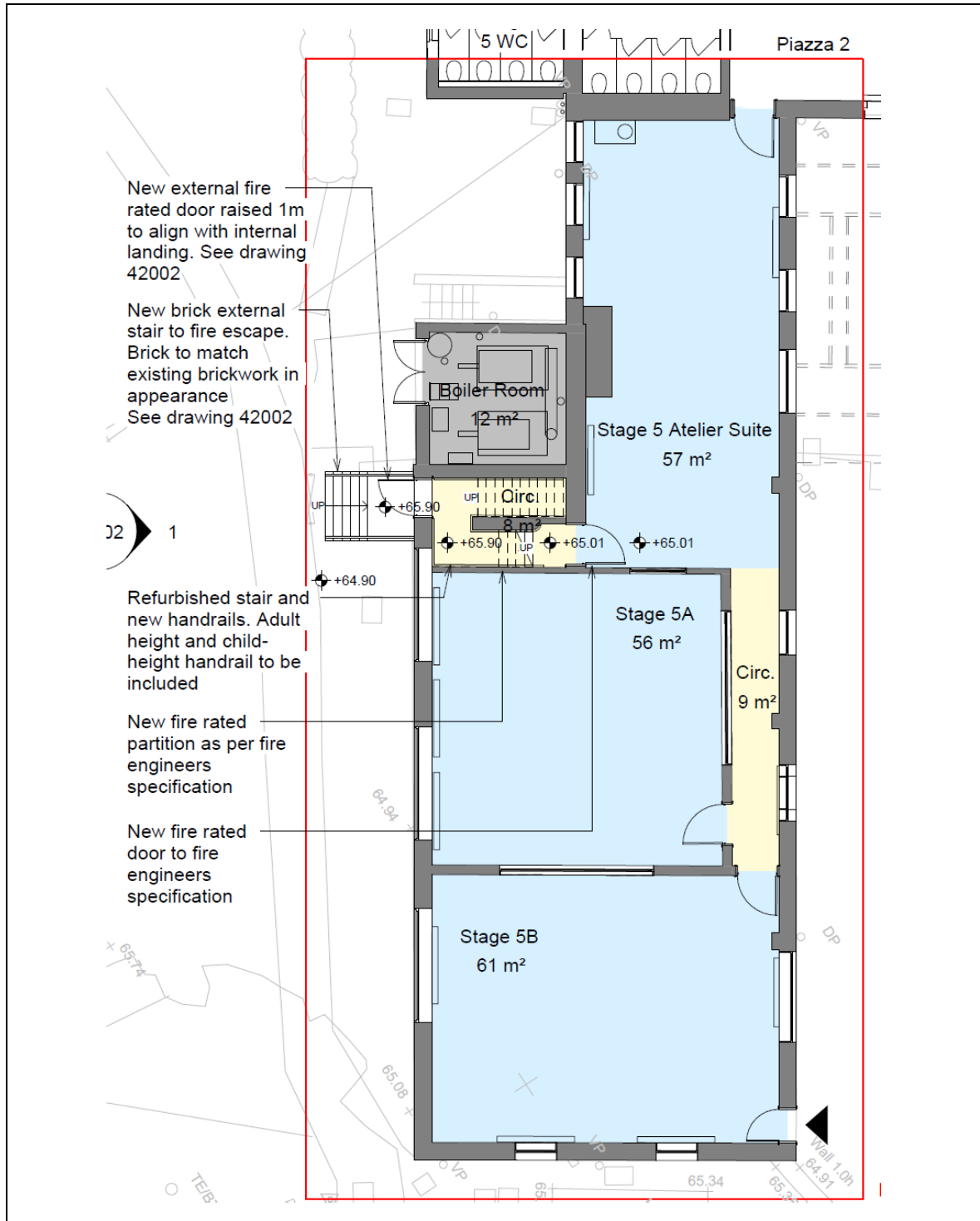


Figure 3: Final exit door and travel route from ground floor

3.2.2. First Floor

Due to the relatively small footprint of the refurbished area, the horizontal means of escape is achieved by providing a short, clear, and direct escape route leading directly to the protected staircase at the storey exit.

The proposed works will transform the original layout, which formerly comprised three separate rooms and a dead-end corridor into a fully open-plan space. This layout alteration provides a significant life-safety advantage, as it maximises visual awareness, allowing staff to immediately detect and react to a fire anywhere within the room. Furthermore, the removal of internal partitions allows occupants to move towards the storey exit door far more effectively and without obstruction.

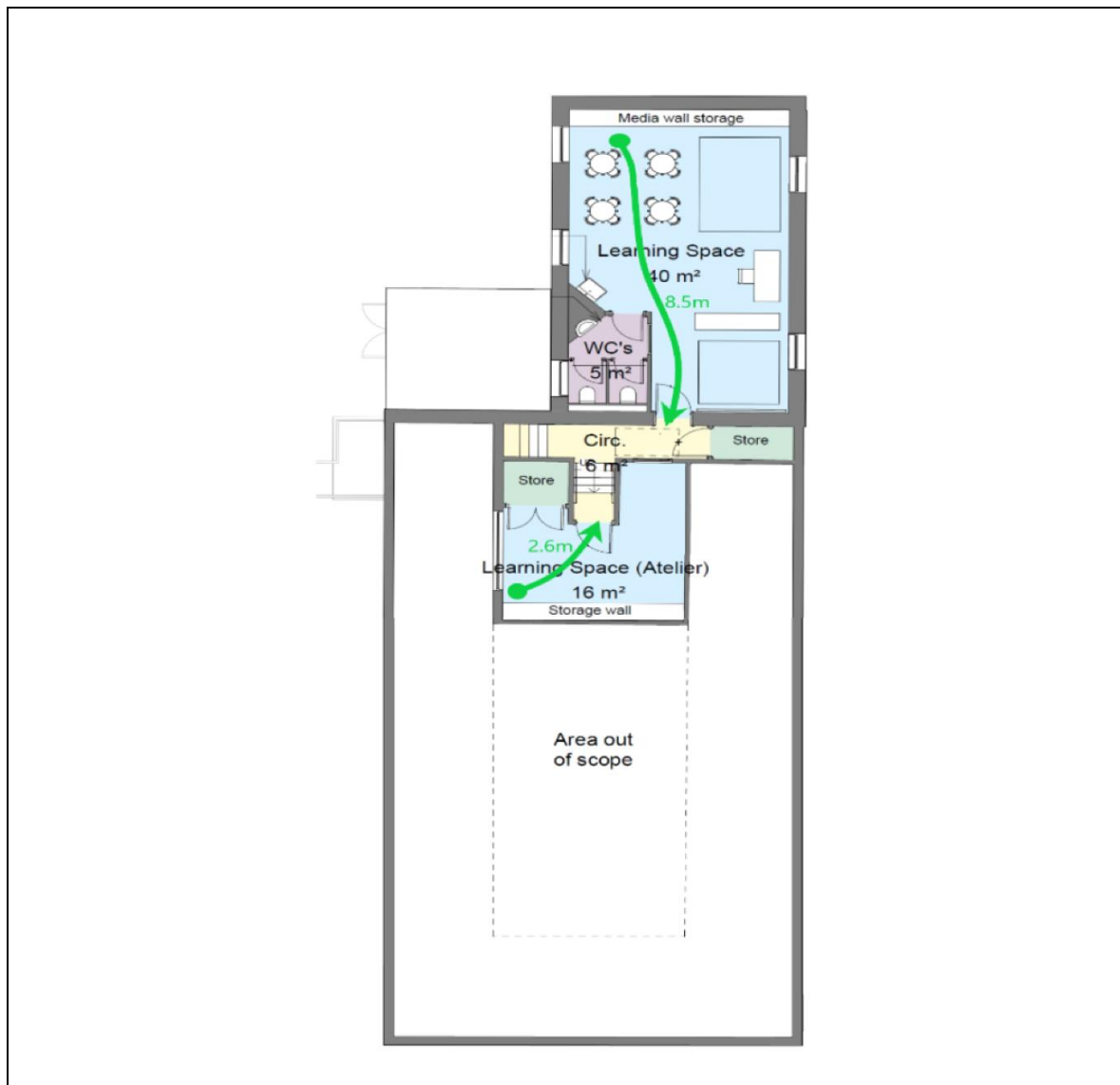


Figure 4: Storey exit routes from first floor

As can be seen from Figure 2, exit provision is adequate for the first floor.

3.4. Vertical means of escape

- 3.4.1. Vertical means of escape has been significantly improved by halving the travel distance within the protected staircase, while providing a direct final exit door to fresh air from the staircase itself.
- 3.4.2. This has been achieved by providing FD30S fire doors to all openings leading into the staircase, including upgrading the door at the base communicating with the ground-floor open space. Additionally, the existing walls will be checked and upgraded if necessary to achieve a full 30-minute fire resistance rating. This will include the section where the existing internal stairwell partition currently abuts the existing window.
- 3.4.3. In addition, the final exit door has been raised to the level of the half-landing, which has resulted in halving the travel distance to fresh air once persons have entered the staircase.
- 3.4.4. Externally, in keeping with the heritage of the building, a small brick wall and steps will be constructed, complete with handrails for safety.

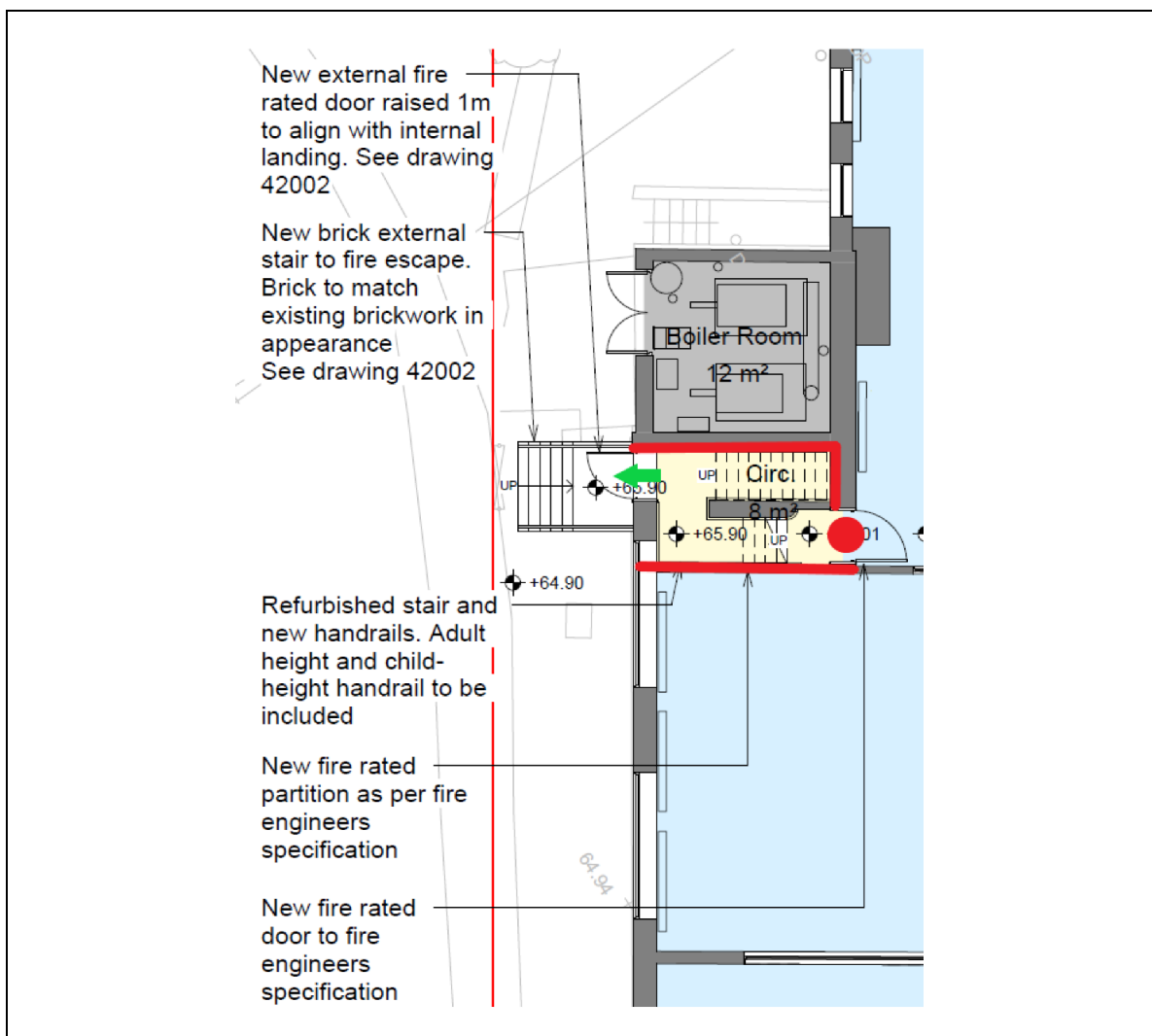


Figure 5: New external final exit route

3.5. Means of escape for the disabled, (or very young children).

- 3.5.1. There is no lift or other means of access to the first floor for persons with limited mobility.
- 3.5.2. When considering the use of the space, it is appropriate to acknowledge the specific egress needs of young children. Paragraph 4.6 of Building Bulletin 100 (BB 100) recognises that, *“Very young children (nursery, reception and infant class) will move more slowly than older children or adults and require constant supervision and direction during egress. Having direct access to an external place of safety from their classrooms is an advantage.”*
- 3.5.3. To achieve the intent of this guidance while respecting the statutory heritage constraints of the Grade II* listed structure, which preclude invasive external structural alterations to the historic fabric the design introduces an FD30S fire door at the classroom exit and all other doors to the staircase to establish a secure, protected containment zone. This allows staff to safely assemble, control, and supervise the children immediately prior to exiting the building envelope.
- 3.5.4. By elevating the new external exit door by approximately 1 metre above ground level, the vertical escape route within the protected staircase has been reduced by half. The evacuation path from the first-floor containment zone requires the children to negotiate only a short, low-rise flight of stairs to reach the final exit and the external place of safety, significantly mitigating the risks associated with slow movement and evacuation delays for this age demographic.
- 3.5.5. Detailed procedures for the evacuation of persons with disabilities will be documented in the Fire Safety Management Plan developed by the Responsible Person. These operational measures are outside the scope of this fire strategy, which addresses design criteria only.

3.6. Building population

- 3.6.1. Due to the single direction of travel available from this level, the theoretical maximum number of occupants is limited to 60 persons in accordance with Approved Document B guidance. The actual maximum occupancy will also depend on the layout of seating and interior furnishings.
- 3.6.2. The expected maximum operational occupancy is 16 children and 4 staff split across the two learning spaces. This demonstrates that the proposed building population is well within the prescriptive theoretical limits, ensuring that the escape routes are more than sufficient for safe evacuation under normal conditions.

3.7. Means of Detection and Alarm

- 3.7.1. The premises' fire detection and alarm system is designed and installed in accordance with BS 5839-1.
- 3.7.2. According to the previous fire risk assessment dated 24 July, a Category L2 system is installed, which has also been confirmed by Inspired Education. This system will be extended to cover the area within this proposal. A Category L2 system typically includes manual call points at designated locations and automatic fire detection within all escape routes, plus automatic detection within rooms, corridors, and compartments opening onto those escape routes.
- 3.7.3. The primary objective of this category of system is to provide an early warning to occupants beyond the room of fire origin, allowing for the safe use of escape routes before they become compromised by smoke.
- 3.7.4. The design also facilitates the use of inner rooms without vision panels, as the comprehensive detection coverage ensures that automated early warning is provided throughout the premises.
- 3.7.5. Manual call points should be installed at the storey exit on the first floor, the final exit on the staircase half-landing, and at ground-floor level. Call points should be provided with protective hinged flip-covers to reduce false alarms, in line with the latest standards.
- 3.7.6. Where activities may result in the fire alarm being inaudible, flashing beacons (Visual Alarm Devices – VADs) linked to the alarm system should be provided. Consideration should also be given to tactile alarm devices for staff with hearing impairments. The exact layout of the call points and automatic detection will be determined by a competent fire alarm contractor, in accordance with BS 5839-1 and manufacturers' recommendations.
- 3.7.7. Where electronic locking devices or door holders are provided along escape routes, they should be interfaced with the fire alarm system to ensure an automatic, fail-safe release on activation of the alarm or upon a total loss of power.

3.8. Travel Distances

- 3.8.1. Travel distances within the premises fully comply with the guidance in Table 4.1 of Approved Document B as outlined in Table 1 below.

Table 1 Maximum Permissible Travel Distances

Area	Maximum travel distance (metres)
Single direction of travel	18m
More than one direction of escape	45m

- 3.8.2. It should also be noted that even if the stricter travel distance limitations of Purpose Group 2(a) (Residential Institutional) were applied to this area, this proposal would still meet that enhanced standard. The layout sits within the 9-metre limitation for a single direction of travel to the storey exit.
- 3.8.3. The layout is predominantly open-plan, with clear and direct escape routes to the storey exit, ensuring occupants can evacuate quickly and safely. The premises is also equipped with the Category L2 automatic fire detection and alarm system, further improving response times and occupant safety.

3.9. Exit Widths

- 3.9.1. The design achieves the required storey exit widths. On a single escape route, the theoretical maximum population is 60 persons per floor in accordance with Approved Document B.
- 3.9.2. Exit widths have been calculated in accordance with Table 2.3 of Approved Document B. The current structural opening for the storey exit from the main learning space is 910mm wide and so the effective clear width is expected to be in excess of the minimum 750mm. Although there are no wheelchair requirements due to the physical constraints of the building it is acknowledged that staff may be carrying one or two children at a time and as such the opening should be made as large as possible.
- 3.9.3. The final exit will have a clear width of 1000mm, which again exceeds the 750mm minimum recommended for a single exit and is in line with the width of the staircase.
- 3.9.4. The alternate accommodation exit to the ground floor Atelier suite is also above 750mm.
- 3.9.5. Considering that the actual number of occupants on the first floor will be approximately 16 children and 4 staff the exit width is sufficient for the use. The escape route is short, direct, and unobstructed, and the premises is equipped with an automatic fire detection and alarm system. In addition, providing there was no fire within this section of the school, escape is also available in two directions via the ground floor door, providing further redundancy.
- 3.9.6. The Fire Safety Management Plan shall ensure that staff are aware of both primary and alternative escape routes to maintain a safe evacuation in the event of a fire.

3.10. Stair Escape Capacities

- 3.10.1. The internal staircase has a clear width of approximately 972mm. Given the small number of occupants expected on the first floor (20 persons), this width is more than sufficient to safely accommodate the evacuation of staff and children. In accordance with Table 3.2 of Approved Document B, a stair width of 1000mm over one floor can technically accommodate an occupancy of up to 150 persons (with a 1000mm stair width being just 28mm wider than the existing flight), meaning the current load is well within safe limits.

3.11. Inner Rooms

- 3.11.1. When the only escape route available from a room is through another room it is called an inner room. An inner room is accepted under Approved Document B guidance on the basis that all the following criteria are met:
- The occupant capacity of the inner room does not exceed 60 persons.
 - The inner room is not a bedroom.
 - The inner room is entered directly from the access room.
 - The escape route from the inner room does not pass through more than one access room.
 - The total travel distance from any point in the inner room to the exit(s) from the access room does not exceed the recommendations for a single direction of travel (18m).
 - The access room is not a place of special fire hazard.
 -
- 3.11.2. In addition, the access room must either have a vision panel to the inner room or be fitted with automatic fire detection and sounders to warn the occupants of the inner room of a fire in the access room. As the premises are protected by a Category L2 system, this requirement is satisfied via automatic detection, thereby negating the need for vision panels.
- 3.11.3. Any inner room within the attic's layout has been confirmed to be in accordance with the above criteria.

3.12. Lifts

- 3.12.1. No lifts are provided within the premises. Evacuation of occupants will be carried out using the designated stairs and escape routes, assisted by trained staff where necessary. This is consistent with the building's Grade II listed status and physical constraints.

3.13. Escape Lighting

- 3.13.1. Emergency escape lighting shall be provided throughout the premises in accordance with Table 5.1 of Approved Document B and BS 5266-1 and BS EN 1838.
- 3.13.2. Lighting shall cover all escape routes, open areas, high-risk locations, and strategic points of importance, including but not limited to:
- Near each exit door intended to be used in an emergency.
 - Near to stairs so that each flight of stairs receives direct light.
 - Near any change in levels.
 - Mandatory emergency exit and safety signs.
 - At each change of direction.
 - Near to each final exit and outside the building to a place of ultimate safety.
 - Near each piece of fire-fighting equipment and manual call points.
 - Within accessible (disabled) toilets.
 - Windowless accommodation (including toilets) and all facilities exceeding 8m².
 - Open plan areas with a floor area of more than 60m².

Note that "Near" is normally considered to be within 2 metres measured horizontally.

3.14. Signage

- 3.14.1. Fire safety signs shall be provided where necessary to clearly identify fire precautions, fire-fighting equipment, and means of escape. All areas of the building shall be fitted with appropriate fire safety signage in compliance with Approved Document B, The Health and Safety (Signs and Signals) Regulations 1996, and relevant British Standards, including BS ISO 3864-1, BS 5499-4, and BS 5499-10.
- 3.14.2. All fire doors shall be marked with the appropriate fire safety signage at eye level according to their function:
- “FIRE DOOR – KEEP SHUT” for doors that must remain closed when not in use.
 - “FIRE DOOR – KEEP LOCKED” for doors that must remain locked when not in use.
 - “AUTOMATIC FIRE DOOR – KEEP CLEAR” for doors held open by an automatic release mechanism.
- 3.14.3. Fire doors to cupboards and service ducts shall be marked on the outside only. All other fire doors shall be marked on both sides.
- 3.14.4. Fire action notices shall be permanently displayed adjacent to all manual fire alarm call points and at other conspicuous locations as necessary to provide clear guidance in an emergency. These notices shall be tailored to the premises' simultaneous evacuation strategy.
- 3.14.5. Due to the availability of the alternative escape route via the internal stairs, fire exit signage shall indicate this route. As this is an early learning setting, staff will direct and assist the children to the nearest final exit, which is highly likely to be the final exit on the staircase half-landing.
- 3.14.6. Human behaviour studies indicate that occupants generally attempt to exit via their original point of entry, therefore, staff training is essential to supplement the visual signage. The final positioning of signage will be confirmed during the fit-out stage.

3.15. Emergency Exit Door Furniture

- 3.15.1. All final exit doors, and any doors providing access to them, shall be maintained for immediate use whenever the premises are occupied, without the need for keys or the manipulation of coded locks. Doors on escape routes should be fitted with emergency exit devices operated by a lever handle or push pad, in accordance with BS EN 179, to ensure safe and rapid egress.
- 3.15.2. As this is an early learning setting, it is accepted that some security measures must be integrated into the door locks to prevent children from exiting unsupervised, provided they remain immediately operable by trained staff in an emergency. For example, lever handles may be positioned higher than normal to remain out of reach of the children.
- 3.15.3. Paragraph 5.3.8 of Building Bulletin 100 (BB 100) recommends that an exit door should be fitted with door furniture that allows a person to operate it with a closed fist, such as a push bar device or push pad. This is not applicable to inward-opening doors.
- 3.15.4. If electronic locks are fitted to doors along any escape route, they must fail-safe to the open position and release immediately on activation of the fire alarm, in accordance with the appropriate critical category of BS 7273-4. In addition, break-glass green emergency door release units must be installed adjacent to the doors.

3.16. General

- 3.16.1. Where self-closing fire doors serve protected stairways that form part of primary circulation routes, they should be fitted with automatic release mechanisms (electromagnetic hold-open devices) to prevent misuse by occupants propping them open with wedges or other objects.
- 3.16.2. These devices shall be interfaced with the fire alarm system to release the doors automatically upon activation of the alarm or upon a total failure of the power supply (fail-safe).

3.17. Firefighting Equipment

- 3.17.1. In general, fire points should be located at all storey exits, within areas presenting a significant fire risk, and to ensure coverage of at least one fire point per 200 m² of floor area. The type and size of extinguisher(s) at each fire point should be selected in accordance with BS 5306-3 and BS 5306-8. In this case, extinguishers are intended for use by trained staff only and can therefore be located in staff-only areas where staff will know their location and be able to use them as needed.
- 3.17.2. As the combined floor area of the habitable rooms on the first floor is approximately 60m², a minimum of one fire extinguisher with a 26A rating is required to meet the basic provision for Class A fire risks under BS 5306-8.

4. B2 - Internal Fire Spread (Linings)

4.1. Classification of Linings

- 4.1.1. Materials used for the surface linings of walls and ceilings shall be selected to meet the classification requirements set out in Table 6.1 of Approved Document B (ADB), with regard to surface spread of flame characteristics and combustibility.
- 4.1.2. In general, wall and ceilings should meet the minimum performance standards identified in Table 2 below.

Table 2 Classification of Lining Materials

Location	Classification#
Small rooms of area up to 30m ² in non-residential accommodation	D-s3, d2
Other rooms, (including garages)	C-s3, d2
Other circulation spaces	B-se, d2

#The European Classifications are described in BS EN 13501-1

- 4.1.3. The classification of linings specified above may be downgraded (but not below Class 3 or D-s3, d2) on walls within rooms, provided that the total area of such downgraded linings in any one room does not exceed one half of the floor area of the room, subject to a maximum of 60 m² in non-residential accommodation.
- 4.1.4. For the purposes of Table 2, the definition of a wall includes glazed screens, the internal surfaces of external glazing, and any part of a ceiling that slopes at an angle greater than 70° to the horizontal. Doors, door frames, glazing frames (e.g. windows or screens), fitted furniture, and narrow members such as architraves, skirtings and coving are not required to meet the classifications stated above.
- 4.1.5. It should be noted that any permitted reduction in classification does not apply to circulation spaces or escape routes, but only to small rooms outside these areas. Where compliance with Building Bulletin 100 (BB100) is sought for primary escape corridors, a higher performance standard regarding flaming droplets (e.g., d0) should be considered where specified by the design team.
- 4.1.6. Where wall or ceiling finishes do not meet the required classifications, they should be treated with an approved flame-retardant coating, applied strictly in accordance with the manufacturer's instructions. Best practice requires the owner to retain evidence of compliance, including proof of purchase, application instructions, re-application requirements, and photographs of application, within the building fire safety folder (Regulation 38 information).
- 4.1.7. Noticeboards in teaching spaces should not extend more than 2.5m without having a break between them of at least 0.4m and should be located away from potential sources of ignition. The total area of noticeboards should not exceed 20% of the wall area, subject to a maximum area of noticeboards of 60m². Any noticeboards exceeding 1m² in area should be fire tested as a complete item to pass smouldering ignition source 0 (cigarette test) and flaming source 1 (match test), in accordance with BS 5852 (under Clause 12: "Methods of test for the ignitability of complete items of furniture").
- 4.1.8. Noticeboards in corridors and circulation areas on escape routes should be covered by glass or polycarbonate and should be no more than 3m long. There should be a gap of at least 1m between noticeboards.

5. B3 - Internal Fire Spread (Structure)

5.1. Elements of Structure and Fire Doors

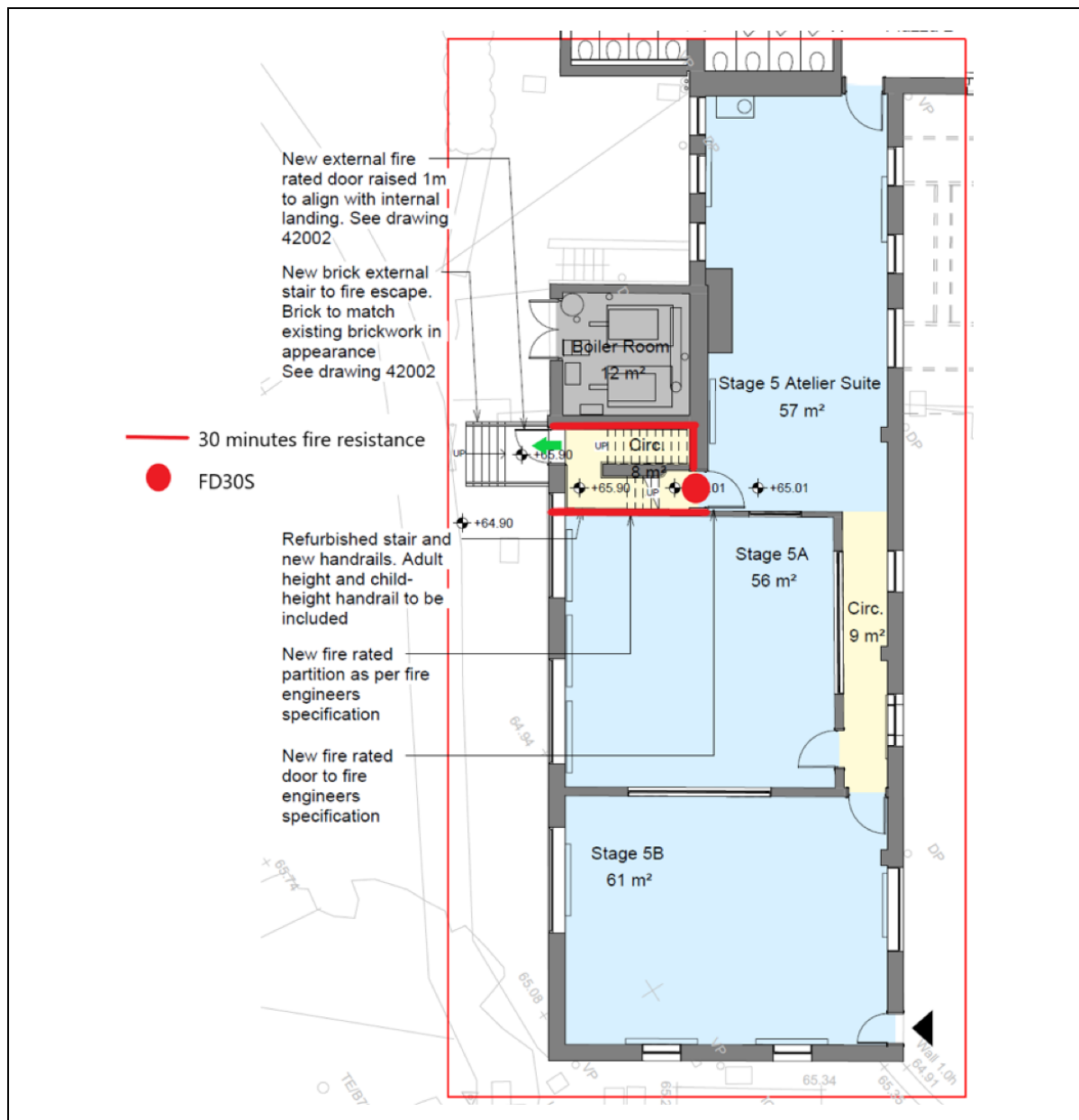
- 5.1.1. Plans indicate that the height of the building from ground level to the finished floor level of the top storey floor is under 5m. In this case, any new structural elements should achieve a minimum period of 60 minutes fire resistance in line with Table B2 of Approved Document B.
- 5.1.2. Fire-resisting construction should be provided where necessary to enclose areas of special fire hazard, protect escape routes, and provide separation between different building uses.
- 5.1.3. Compartment walls and fire-resistant partitions must form a physical barrier to the passage of fire and the products of combustion. These elements should remain imperforate throughout their height, form a complete seal with the structural slab or supporting element above, and achieve the same or greater level of fire resistance as the associated structure.
- 5.1.4. Where one element of structure supports or gives stability to another element, the supporting element should have no less fire resistance than the element it supports.
- 5.1.5. All fire doors within the building should comply with Appendix C and Table C1 of Approved Document B and are summarised below in Table 3. Any new door should be tested to achieve the appropriate performance in accordance with BS 476-22. Fire doors should be self-closing unless provided for a storeroom, in which case they may be fitted with a lock and a sign stating: "Fire Door Keep Locked."
- 5.1.6. Any new compartmenting elements and/or fire stopping should be provided to meet the recommended minimum fire resistance performance in accordance with Appendix B, Table B3 of Approved Document B as summarised below in Table 3.
- 5.1.7. Existing doors should be checked as part of the Fire Risk Assessment (FRA) to ensure they remain fit for purpose and close effectively onto their rebates. If deficiencies are found they should be upgraded or exchanged.

Table 3: Wall and Floor Requirements

Part of building	Minimum fire resistance standard	Fire Doors
Elements of structure	60 minutes	N/A
Compartment walls & floors	60 minutes	FD60S
Enclosing staircase	30 minutes	FD30S
Protected escape corridors	30 minutes	FD30S
Storerooms for highly flammable substances or chemicals	30 minutes	FD30S

5.2. Compartmentation

- 5.2.1. Figures 6 and 7 below show the assumed compartment and fire-resisting lines for the building. All compartment walls should achieve a minimum of 60 minutes fire resistance and extend to the underside of the floor or roof above. This will also ensure extensive cavities are avoided. Existing walls should be checked to ensure they have been maintained to at least their original condition in terms of fire resistance.
- 5.2.2. Although not strictly required by Approved Document B, paragraph 31.5 of BB100 states “to reduce the extent of property damage in a fire, all floors in unsprinklered school buildings should be constructed as compartment floors. This will often help satisfy requirements for acoustics and thermal mass as well. This also assists to delaying any products of combustion from entering the first-floor area giving greater time for occupants to make their escape.
- 5.2.3. Places of special fire hazard such as switchgear rooms, boiler rooms and large storage spaces should be enclosed in 30-minute fire resisting construction.



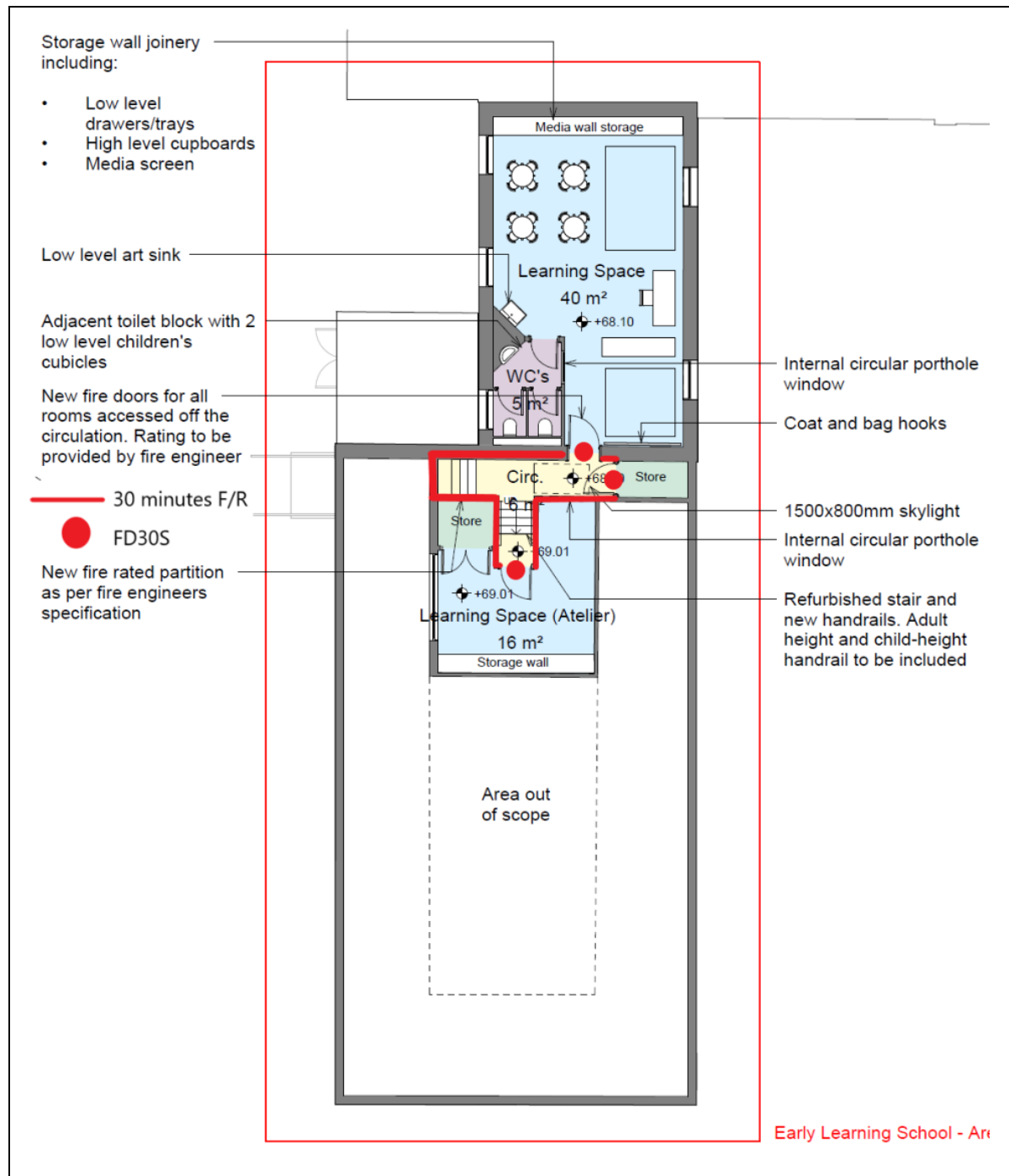


Figure 7: First Floor Compartment and Fire Resisting Lines

5.3. Concealed Spaces and Cavity Barriers

- 5.3.1. Where appropriate, suitable provisions should be made to prevent the unseen spread of fire and smoke through cavities or concealed spaces by the installation of cavity barriers. Any such barriers should comply with the general recommendations of Section 9 of Approved Document B.
- 5.3.2. Based on the available information, there appear to be no extensive voids in excess of 20m requiring the provision of cavity barriers within either of the learning spaces.

5.4. Protection of Openings and Fire Stopping

- 5.4.1. Openings in any fire-separating element (e.g., compartment walls, cavity barriers, or protected corridors) should be protected with appropriate fire-stopping or seals to ensure that the fire resistance of the element is not compromised. All such protection should comply with Section 10 of Approved Document B.
- 5.4.2. All service penetrations through fire-rated elements should be appropriately sealed in accordance with the recommendations given in Approved Document B.
- 5.4.3. Typical fire stopping materials include:
- Cement mortar
 - Gypsum-based plaster
 - Cement-based or gypsum-based vermiculite/perlite mixes
 - Glass fibre, crushed rock, blast furnace slag or ceramic-based products (with or without resin binders)
 - Intumescent mastics
- 5.4.4. Systems used will be designed, installed, tested and maintained in full accordance with the relevant BS 476-20 standard.
- 5.4.5. Any openings for services (exceeding a dimension set out in Table 4 below) breaching compartment walls will be fire-stopped unless protected throughout their entire length with fire resisting material. This is to prevent the passage of fire and assist in retarding the movement of smoke. Joints between elements of structure that serve as barriers to fire will be fire-stopped to prevent the passage of fire and smoke. Joints between elements of structure serving as fire barriers shall also be fire-stopped.

Table 4 Permitted pipe penetration details

Situation	Pipe material and maximum nominal internal diameter (mm)		
	(a) High melting point metal	(b) Lead, aluminium, aluminium alloy, uPVC, fibre cement	(c) Any other material
Structure (but not a wall separating buildings) enclosing a protected shaft which is not a staircase or a lift shaft	160	110	40
Compartment Wall or Compartment floor	160	160 (stack pipe) 110 (branch pipe)	40
Any other situation	160	40	40

6. B4 - External Fire Spread

6.1. External Walls

- 6.1.1. The building is existing with no material changes proposed to the external walls that would affect fire spread.
- 6.1.2. The external walls are believed to be traditional brick and block construction.
- 6.1.3. Any wall within 1800mm of an external escape route (such as an external stair or path) should achieve a minimum of 30 minutes fire resistance (integrity and insulation). In this case the five brick-built steps lead directly away from the external wall of the building at a 90-degree angle and as such the evacuees move immediately away from the building envelope rather than traversing parallel to it.

6.2. Space Separation

- 6.2.1. The building is existing with no additional openings proposed within the external wall. As such, space separation calculations are not applicable.

6.3. Unprotected Openings

- 6.3.1. No new openings are proposed in the external walls; therefore, unprotected opening guidance does not apply. The door is to be simply raised.

6.4. Roofs

- 6.4.1. The existing roof structure is to be retained with no modifications proposed, meeting the relevant performance requirements of requirement B4.

7. B5 - Access and Facilities for the Fire Service

7.1. Fire Hydrant Provision

- 7.1.1. This is an existing building situated on a private estate within an existing school. Royal Berkshire Fire and Rescue Service have confirmed the presence of a private fire hydrant located to the front of the building, the position of which is illustrated on the site plan below in Figure 8.

Inspired learning have confirmed that there is another fire hydrant on the North West corner of internal crossroads, and one opposite the swimming pool. They have also confirmed that the fire hydrants are serviced annually, every August, by Dry Risers Direct.



Figure 8: Royal Berkshire Fire and Rescue Service Fire Hydrant Plan

7.2. Access to the Building for Firefighting Purposes

- 7.2.1. The building height is less than 18m and is well below the threshold requiring a firefighting shaft under current building regulations and statutory guidance.

7.3. Firefighting Mains/ Vehicular Access

- 7.3.1. The building is existing with no changes proposed to the vehicular access or appliance parking arrangements.

7.4. Onsite Information Box

- 7.4.1. This is an existing building and as such any new information relating to the new use of the attic space should be updated within the existing asset. An on-site information box provides relevant information, such as the locations of power supplies and riser cupboards, and must be made available as required to the Fire and Rescue Service upon arrival.

8. Fire Safety Management/ Information

8.1. General

- 8.1.1. The following provisions are included to assist management in understanding the ongoing fire safety responsibilities associated with the building under the Regulatory Reform (Fire Safety) Order 2005 (as amended) and the Building Safety Act 2022.
- 8.1.2. Where fire risk assessments are undertaken or building works are carried out, this fire strategy should be made available to the inspecting officer to provide context on the standards against which compliance is assessed.
- 8.1.3. A fire safety manual should be provided and maintained in accordance with section 19 of Approved Document B. This document should contain relevant design information and operational records, including inspection, testing and maintenance records for all fire safety systems and equipment installed within the building.
- 8.1.4. Records relating to fire safety systems, including (where applicable) fire detection and alarm systems, emergency lighting and any fire-resisting features, should be kept up to date and made available for inspection. Testing and maintenance should be undertaken at appropriate intervals in accordance with the relevant British Standards and manufacturers' recommendations.
- 8.1.5. Fire safety policies and procedures should be established and maintained to address, at a minimum, the following:
 - Fire Risk Assessment
 - Resources and Authority
 - Fire Safety Training
 - Control of Work on-site.
 - Maintenance and Testing
 - Communications
 - Emergency Planning and Evacuation Procedures.
- 8.1.6. Maintenance procedures should ensure that all fire safety measures, both active and passive, remain effective throughout the life of the building.
- 8.1.7. Good housekeeping standards should be maintained at all times to ensure that escape routes, fire-resisting features and fire safety systems are not compromised.
- 8.1.8. A suitable and sufficient Fire Risk Assessment should be carried out by the Responsible Person of the building nearer to the development completion and be in place on occupation to meet the Regulatory Reform (Fire Safety) Order (RRO) 2005. In line with current statutory requirements, this assessment must be recorded in full, regularly reviewed, and coordinated with any other Responsible Persons across the wider school estate. The assessment should be maintained and act as a living record of the provisions and measures, passive and active, used to minimise fire risk within and around the building.

8.2. Escape Routes

- 8.2.1. The following recommendations should be met to ensure that escape routes are available for use at all times when the building is occupied:
1. All escape routes shall be kept clear and free from obstruction at all times.
 2. Goods, materials or combustible items shall not be stored within escape routes or stair enclosures. Any obstruction should be removed immediately.
 3. Escape routes should be inspected regularly. A log detailing the frequency and findings of inspections should be included within the fire safety manual, with corrective actions taken where necessary.
 4. Fire doors intended to be kept closed shall remain closed and unobstructed.
 5. Fire doors fitted with hold-open devices shall be maintained in good working order and shall not be obstructed.
 6. The exterior of the building should be inspected to confirm that final exits and routes away from the building remain unobstructed.
 7. Combustible items shall not be placed within stair enclosures or adjacent to final exits.
 8. Fire safety signs and notices, fire blankets, emergency escape lighting, fire doors and shutters shall not be obscured or tampered with.
 9. Maintenance or redecoration of escape routes shall not involve the use of materials that would adversely affect surface spread of flame performance or the means of escape.
 10. Floor surfaces (including stairs, stair nosings and ramps) within escape routes shall be even, well maintained and non-slip. Resilient floor finishes should be maintained in accordance with BS 6263-2, with emulsion polish only where required; wax polishes should be avoided.

8.3. Key Management Issues

- 8.3.1. This section describes each of the key management areas that will need to be implemented and maintained during the lifetime of the building:
- All necessary fire safety systems must be regularly maintained and tested.
 - The building management should regularly monitor and control zero-tolerance in relation to combustibles within the escape routes and circulation areas. Escape routes must remain unobstructed and free from combustible materials at all times.
 - A full Fire Risk Assessment should be developed and kept up to date at all times, and especially when any physical changes are made or the use of the building changes.
- 8.3.2. A fire safety plan should be drawn up, maintained and implemented by the person responsible for the building and should include:
- The procedures to be adopted in the event of a fire signal being given.
 - Procedures for evacuation of occupants.
 - Procedures for equipment maintenance.
 - Procedures for recording and monitoring equipment, maintenance and any fire incidents.
 - Special procedures which are in place for occupants who may have a disability (e.g. Personal Emergency Evacuation Plans – PEEPs) and procedures to ensure staff are aware of the presence of such occupants.

9. Staff training

- 9.1. Staff training within an early learning centre is critical to ensuring the safe evacuation of all occupants. All staff must receive comprehensive fire safety training, with formal, signed records maintained to confirm that they fully understand their designated emergency roles and responsibilities.
- 9.2. The emergency evacuation procedures must be discussed, clearly explained, and understood by all staff upon initial induction and at regular intervals thereafter, at a minimum frequency of once per year.
- 9.3. Fire drills must be conducted regularly to embed the information from theoretical sessions and to validate the effectiveness of the evacuation strategy. All drills and activations must be formally recorded within the fire safety manual.

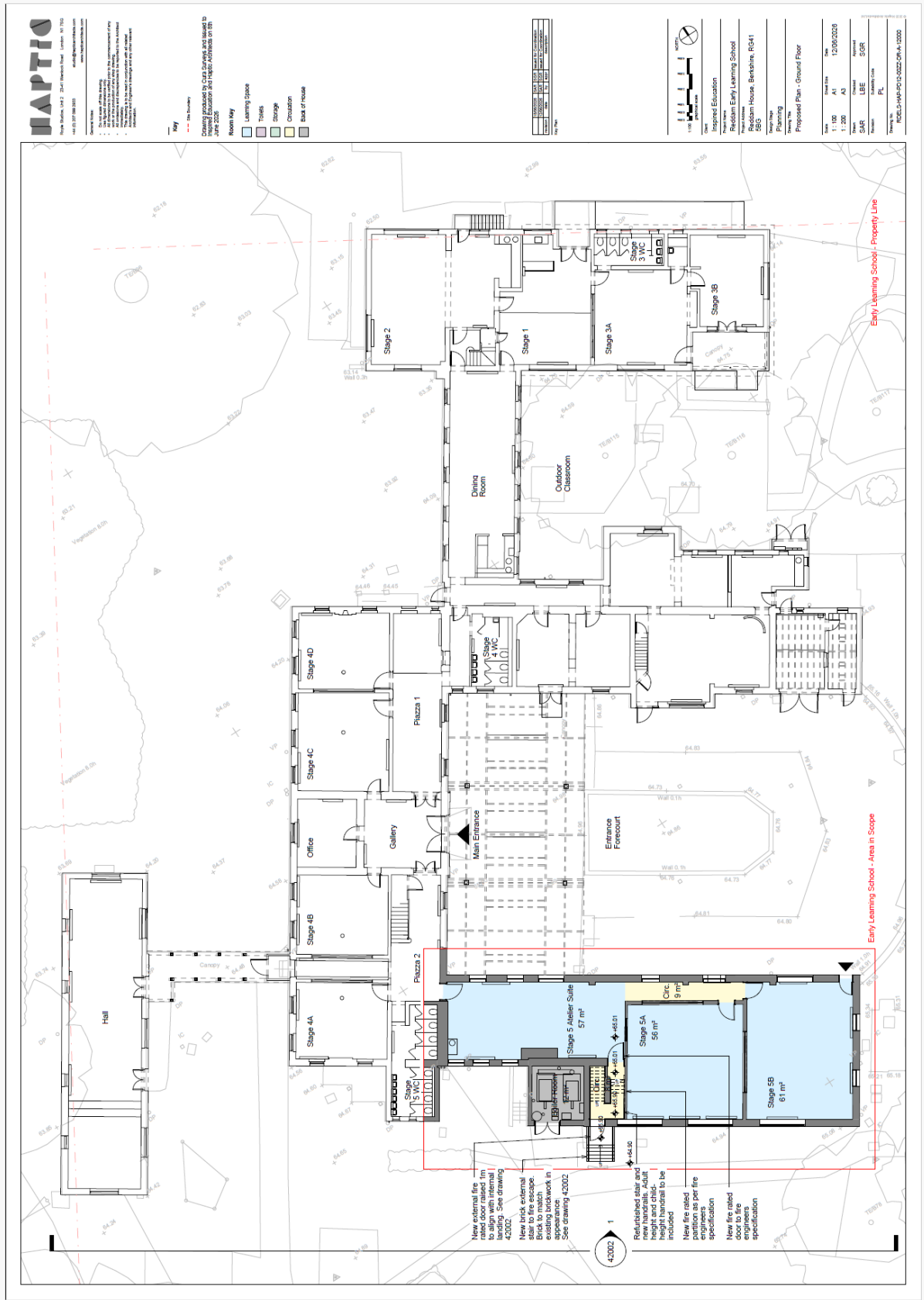
10. Regulation 38

Regulation 38 of the Building Regulations 2010 is a mandatory statutory requirement for this project, as the works involve a material change of use from a storeroom to an attic learning space alongside internal structural layout modifications. The fire safety information package must be handed over to the Responsible Person either upon completion of the project or at the point of first occupation, whichever occurs earlier.

This information ensures that there is an accurate and detailed package of as-built data passed on to the dutyholder to enable them to safely operate, manage, and maintain the building's updated fire design.

- 10.1. The as-built documentation package handed over under Regulation 38 must accurately reflect the building works and structural changes, including:
The Responsible Person should attempt to detail all the fire safety elements within the building, both passive and active. This will allow the Responsible Person to understand the composition of the fire safety elements and to ensure they are safely maintained. This may include:
 - a) Fire Strategy.
 - b) Escape routes.
 - c) Compartmentation, separation and fire doors.
 - d) Locations of fire and/or smoke detector heads, fire alarm call-points, detection/alarm control boxes, alarm sounders, fire safety signage.
 - e) Emergency lighting, firefighting equipment and location of hydrants outside the building.
 - f) Any smoke-control systems including mode of operation and control systems.
 - g) Any high-risk areas (e.g. heating machinery).
 - h) Specifications of any fire safety equipment provided, in particular any routine maintenance schedules; and
 - i) Any assumptions in the design of the fire safety arrangements regarding the management of the building.
- 10.2. Section R38 of Approved Document Part B - Volume 2 provides further information in this regard.

Appendix 1 – Ground floor



[illegible]