



Radcliffe Civic Hub

Fire Strategy Report

Client Details:

Vinci Construction UK Limited
Ditton Road
Widnes
Cheshire
WA8 0PG

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Revision 02

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1 Introduction

Bespoke Fire Safety Design Ltd (BFSD) has been appointed by Vinci Construction UK Limited (Vinci) to develop and coordinate the fire strategy for the proposed new Radcliffe Civic Hub building, located in the centre of Radcliffe, Greater Manchester. This document describes the fire strategy for the building and is intended to be used for communication and coordination of the fire safety measures and also for submission to the Approving Authorities, in support of a Building Regulations application.

The scope of this report is to describe the general arrangement and performance specification of passive and active fire safety measures. The detailed design is expected to be undertaken by approved and competent designers and contractors, whilst meeting the recommendations of this fire strategy.

This report should be read in conjunction with indicative fire strategy drawings, located in Appendix A and detailed drawings produced by Pozzoni Architects.

It is noted that this document does not represent the fire risk assessment for the building, which is to be produced by others, using this strategy for reference.

1.1 Legislative Requirements

1.1.1 Building Regulations

This fire strategy is intended as a record of the fire safety design for the building and has been developed to comply with the functional requirements of Part B of the Building Regulations, 2010 (as amended) (1).

This report should form part of, and be the basis of, the information pack handed over to the client under Regulation 38 (of the Building Regulations).

1.1.2 Regulatory Reform (Fire Safety) Order

The ongoing operation of the building will be the responsibility of the operator/management and requires compliance with the Regulatory Reform (Fire Safety) Order (RRO) (2).

To assist in discharge of duties under the RRO (including maintenance of a premises risk assessment), general operational fire safety recommendations are made in Section 7 of this report. These recommendations are advisory only and comprehensive fire safety management plan should be produced by the landlord/operator of the building or nominated responsible person.

1.1.3 Construction Design Management

The strategy has been developed in cognisance of the Construction (Design and Management) Regulations (3) (CDM), which sets out what designers are required to consider in order to protect those involved in the construction or ongoing use of a building. Any key risk items for consideration have been identified as necessary.

1.2 Basis of Design

BS9999 (4) has been used as the primary design guidance for to demonstrate compliance with the Building Regulations (1).

BS9999 provides generic guidance for typical building arrangements based upon an understanding of the risk profile of the building. The risk profile of Radcliffe Civic Hub is identified as 'B2' in recognition of the following:

- Occupancy Characteristic B: Occupants are awake and unfamiliar with the building.
- Fire Growth rate 2: Medium fire growth rate associated with offices, lounges, seating, galleries.

All associated measures in regard to means of escape and fire protection will be developed in consideration of Risk Profile B2. Note that permissible variations (extended travel distances and increased capacity) have not been adopted, to ensure the fire strategy retains flexibility.

1.3 Insurance & Sport England Requirements

The fire strategy has been developed to consider life safety of occupants and the Fire Service only. Property protection and business continuity requirements have not been communicated by Bury Council or their insurers and have therefore not been considered.

Measures required by Sport England would be in excess of those expected by guidance to the Building Regulations and therefore are not identified in this revision of the fire strategy. Further detail on Sport England measures is outlined in Pozzoni architectural information.

1.4 Approvals Status

Discussion has taken place between BFSD, Pozzoni, Vinci and Bury Council Building Control; however, a formal application has not been submitted. At the time of writing, formal consultation has not been undertaken with Greater Manchester Fire Service.

It is intended that this report forms a part of the Building Regulations application and will be submitted to Bury Council for their review and consultation with the Fire Service.

2 Building Description

2.1 Building Arrangement & Use

The proposed building is a new four-storey (Lower Ground, Ground, First and Second Floors) leisure and community building. The building is located off Dale Street and Blackburn Street and the access to adjacent retail car park.

It is proposed that the building provides fitness, swimming pool, social space, library, staff and general office accommodation and food & beverage for members of the public. In addition, a separate commercial is provided, currently proposed as 'Clip n Climb' (rock climbing).

It is not intended for the building to be used for large exhibitions or special events, albeit individual areas may be reserved, but remain under the control building management. It is not intended that alcoholic drinks will be served or consumed on the premises.

The building arrangement is as shown in Pozzoni architectural drawings and indicative fire strategy drawings provided in Appendix A. A summary of the arrangement and use is outlined in **Table 1**.

The top floor height of the building is 11.7m from adjacent access level. The building is served by three protected stairs, (Stair 1, Stair 2, Stair 3). Stair 2 and Stair 3 are also firefighting shafts.

The building is constructed as steel frame with composite concrete deck and concrete cores. External walls are a mixture of infill plasterboard construction with cladding and curtain wall glazing.

Table 1: Identification of uses in the building

Floor	Use	Drawing Reference
Lower Ground	Plant room Pool undercroft Independent unit (Clip n Climb)	RADHUB-PAL-V0-00-DR-A-2000
Ground Floor	Entrance foyer with café and seating. Swimming pool changing area Swimming pool (double height). Community rooms. Independent unit (Clip n Climb) Plant rooms.	RADHUB-PAL-V0-00-DR-A-2001
First Floor	Swimming pool void (double height) Small fitness studios Larger fitness suite Fitness studios changing area Library Plant room	RADHUB-PAL-V0-01-DR-A-2002
Second Floor	Offices & meeting rooms (staff and serviced) External fitness/training area Plant room External plant	RADHUB-PAL-V0-02-DR-A-2003
Roof	No access. Roof only.	RADHUB-PAL-V0-RF-DR-A-2004

2.2 Occupant Load

In order to provide the greatest level of flexibility, the maximum occupant load is driven by the availability and clear width of exits (refer to Section 3.4). The maximum occupant load is identified in **Table 2**.

The roof and plant rooms are unlikely to be regularly occupied and only by a nominal number of maintenance staff at any one time. Therefore, this is not included within the design occupant load.

Table 2: Design & maximum occupant load

Floor	Maximum Capacity
2 nd Floor	128 persons
1 st Floor	254 persons
Ground Floor	683 persons (248 persons in pool) (375 persons in foyer) (60 persons in unit)
Lower Ground	60 persons in unit
Total	1235 persons

Any increase to the occupant load identified in **Table 2** would be beyond the scope of this fire strategy and should be reflected in a specific fire risk assessment.

3 Means of Escape

3.1 Evacuation Strategy

Upon detection anywhere in the building, the fire alarm will activate throughout the building, including external areas and in the independent unit.

Activation of the fire alarm is to result in all occupants of the building simultaneously evacuating to the nearest available exit. Occupants should continue their escape to outside and be met by staff at predefined muster points.

3.1.1 Mobility Impaired Persons

Mobility impaired persons should evacuate to an exit as above. Should assistance be required, occupants are to advise the main reception and in an evacuation:

- Wait at a protected refuge area and communicate with management to receive further instruction, and/or;
- Follow the guidance of their agreed Personal Emergency Evacuation Plan (PEEP).

In support of the above, a protected refuge is provided within each protected stair (such that they do not obstruct the general means of escape) and specific policy for individual needs (PEEP) is to be implemented by the building management (preferably prior to the individuals attendance).

Further details of the measures provided to support escape for mobility impaired persons is outlined in Section 3.9.

3.1.2 Muster Points

The determination of appropriate muster points and their ongoing suitability is the responsibility of the landlord/operator.

For the purposes of this fire strategy, it is recommended that muster points are located outside the main entrance (Blackburn Street Square) and outside the swimming pool exit (adjacent retail car park). Notwithstanding, it is recommended that in evacuation, staff are posted at each exit and each muster point.

It is recommended that emergency lighting is provided to ensure these areas and the route to them, remain well lit.

3.1.3 Evacuation Management

Those responsible for evacuation management should ensure that they are within a safe environment and undertake the specific instructions provided for their role e.g. fire warden, building management, duty manager, etc. Should the immediate area be compromised by fire, it is recommended that a sweep of the floor is conducted prior to evacuating themselves and reporting to the duty manager.

Specific management measures will be required to ensure all occupants within the swimming pool are directed to leave the building (i.e. not collect their things first) and be provided with appropriate means to keep warm after evacuating the building.

Further recommendations regarding fire safety management are provided in Section 7. However, detailed instructions and guidance must be developed separately by the operator to fulfil their responsibilities under the RRO (2).

Specific management measures will be required to ensure all occupants in the Clip n Climb unit descend to floor level and are un-clipped and escorted to the exit efficiently. The management of this unit is the responsibility of the tenant.

3.2 Detection & Alarm

Detail of the automatic detection and alarm system is provided in Section 6.1.

The system will operate on a single-stage basis, whereby activation of a smoke/fire detector, manual call point or staff intervention will result in the following:

- Fire alarm activates throughout the building.
- House lights (associated with multimedia studios) are raised.
- Music systems (associated with multimedia studios) are turned off.
- Automatic fire and smoke dampers activate (refer to Section 5.2.6).
- Other systems shut down/deactivate (door hold-opens, door security, gas supply etc.).
- All staff to undertake specific evacuation responsibilities.

3.3 General Means of Escape Provisions

Escape routes from each floor of the building and the associated travel distance, are identified in the fire strategy drawings provided in Appendix A. The building is arranged to comply with the general means of escape provisions, compliant with BS9999, as identified in **Table 3**.

Table 3: General means of escape provisions

Provision		≤ 60 persons	> 60 persons & ≤ 121 persons *	> 121 persons
Number of exits		≥ 1	≥ 2	
Door swing		Any direction **	In the direction of escape only	
Minimum Storey exit width		≥ 800mm	≥ 800mm	4.1mm/person and ≥ 1050mm
Minimum stair width		≥ 1000mm and as per Section 3.4.1		
Travel Distance	Single Direction	General: 20m (considering furniture layout) Plant areas and rooms of special fire hazard: 18m ***		
	> Two directions	General: 50m (considering furniture layout) Plant areas and rooms of special fire hazard: 45m ***		

Notes:

* Occupant load limit of 121 persons for doors less than 1050mm is based on 500/door width per person (4.1mm/person) as outlined in Section 16.6.1 of BS9999.

** Where the door swings against the direction of escape, the occupant load in the area served is limited to 60 persons. Refer to Appendix A.

*** Plant areas and rooms of special fire hazard are considered separately as Risk Profile A3 for the purposes of travel distance limits.

3.4 Escape Width and Capacity Assessment

This section outlines the escape capacity for the building and demonstrates that the design occupant load identified in Section 2.2 is feasible.

The escape assessment is based on the following principles:

- Clear storey exit widths are as measured in Appendix A. Clear stair and storey exit widths must be constructed with the clear width as identified (clear of obstructions and door hardware).
- Although Stair 2 and Stair 3 are accessed via protected lobbies/corridors (as firefighting shafts), this is not the case for Stair 1 and therefore the largest whole stair is discounted.
- On Ground Floor, the largest storey exit is discounted to determine available capacity.

Refer to Appendix A for details on individual stair and exit capacity provisions.

3.4.1 Stair Capacity

Three stairs are provided in the building, Stair 2 and Stair 3 discharge to the public realm between the Civic Hub and Radcliffe Market, Stair 1 discharges adjacent to the main entrance on Blackburn Street square. Each of the stairs is to have a clear width of 1300mm, measured between handrails on the basis that the handrails protrude more than 100mm into each side of the stair.

Capacity of stairs is identified in **Table 5**.

Table 4: Escape capacity assessment – stairs

	Stair 1 *	Stair 2	Stair 3	
Clear width	1300mm	1300mm	1300mm	
Storeys Served	3	3	2	
Stair Capacity *	382 persons (3.4mm/person)	382 persons (3.4mm/person)	325 persons (4.0mm/person)	Floor Totals
2 nd Floor	128 persons	128 persons	-	128 persons **
1 st Floor	127 persons	127 persons	163 persons	254 persons ***
Ground Floor **** (stairs only)	127 persons	127 persons	162 persons	254 persons ***
Total	382 persons	382 persons	325 persons	636 persons

Notes:

* Based on width per person, as identified in Table 13 of BS9999.

** Assumes Stair 1 or Stair 2 discounted in full.

*** Assumes Stair 3 discounted in full and remaining capacity split evenly between floors.

**** Due to the likelihood that occupants may use the base of stairs as part of their escape route from ground floor, this is considered as an additional storey, in accordance with Section 15.6.6(e).

3.4.2 Storey Exit Capacity

The capacity of storey exits on each floor is limited by the available storey exit width or, where relevant, the capacity of the stair. The storey exit capacity for routes using the base of stairs is as per Section 3.4.1.

Capacity of storey exits is identified in **Table 5**. Further limitations of individual rooms are shown in the fire strategy drawings in Appendix A.

Table 5: Escape capacity assessment – storey exits

Floor	Storey Exits	Clear Width *	Exit Capacity	Floor Capacity
Ground	Stair 1	1500mm	127 persons **	854 persons (Exit 1 discounted)
	Stair 2	1500mm	127 persons **	
	Stair 3 ****	1500mm	163 persons ** (pool only)	
	GF Exit 1	1500mm	365 persons ***	
	GF Exit 2	800mm	121 persons	
	Pool Exit 1 ****	1300mm	317 persons *** (pool only)	
	Pool Exit 2 ****	850mm	121 persons (pool only)	
First	Stair 1	1500mm	127 persons **	254 persons (Stair 3 discounted)
	Stair 2	1500mm	127 persons **	
	Stair 3	1500mm	163 persons **	
Second	Stair 1	1500mm	128 persons **	128 persons ***** (Stair 1 discounted)
	Stair 2	1500mm	128 persons **	

Notes:

* Based on full opening width. Half-leaves must not be bolted, refer to Section 3.7.

** Based on stair limitation, as noted in Table 4.

*** Based on 4.1mm/person, as identified in Table 12 of BS9999.

**** Unsecured access is available between pool area and seating area. Also, escape provision includes alternative route from changing areas.

***** The maximum occupant load of the external exercise area is 60 persons. When fully occupied, the maximum occupant load of the office (and associated areas is therefore 68 persons). Note that each area may vary, up to a maximum aggregate of 128 persons.

3.4.3 Independent Unit – Clip n Climb

The independent unit, currently proposed as ‘Clip n Climb’ is a double-height space with entrance/exit at Ground and Lower Ground Floor, connected by a single protected stair.

The arrangement of means of escape is such that the Lower Ground and Ground floor have access to a single escape route (or inward swinging doors) and thus, 60 persons per floor.

The unit also incorporates a separated basement storage area with single exit. This area will be infrequently used by limited persons and therefore capacity is not added.

3.4.4 Capacity Assessment Conclusion

The assessment outlined in Table 4 for stairs and Table 5 for storey exits demonstrates the following:

- Maximum occupant capacity on Ground Floor = 683 persons, of which;
 - Maximum occupant capacity in the swimming pool = 248 persons.

- Maximum occupant capacity in the independent unit = 120 persons (60 persons per floor).
- Maximum occupant capacity in Ground Floor entrance foyer/café = 387 persons.
- Maximum occupant capacity on the 1st Floor = 254 persons.
- Maximum occupant capacity on the 2nd Floor = 128 persons.

Additional limitations will exist in individual rooms (for example maximum capacity of studios with a single escape door is 60 persons, as per **Table 3**).

3.5 Inner-rooms

Inner-rooms are located throughout the building. Inner rooms are acceptable on the basis of the following:

- Occupant load in the inner-room does not exceed 60 persons.
- Inner room is accessed directly from the access room, not via a corridor.
- The escape route from the inner-room does not pass through more than one access room.
- Travel distances comply with **Table 3**.
- Access room is not a boiler room, contains flammable materials or oil-filled switchgear etc.
- The building has an automatic detection & alarm system throughout.

3.6 Use of Space in Protected Exits

Protected stairs, protected lobbies and protected corridors will not contain furnishings and are not used for storage of any materials. Store rooms, cleaners stores etc., and service risers are not accessed directly from within stairs.

Lockers within protected corridors are allowable provided that they are constructed with materials of limited combustibility, i.e. Class A2-s3,d2 (metals will be acceptable). In this instance, the corridor is considered as an access room to any adjacent inner rooms.

3.7 Door Fastening & Ironmongery

Doors on escape routes are to be provided with suitable ironmongery such that the door can be opened easily and without requirement for a separate key.

The fastening of any door used as an exit during a fire, which is to be locked during normal operation, is to comprise panic hardware in accordance with BS EN 1125 (5). The hardware will be located on the side approached by escaping persons.

Where doors located on escape routes include a half-leaf, the half-leaf portion is not to be provided with manual bolts, so as to ensure that both leaves can be opened easily for escape. Alternatively, the half-leaf can be provided with manual bolts where the remaining openable leaf provides the full door capacity (refer to Section 3.4).

3.8 Escape Signage

Escape signage is to be provided within all areas in accordance with BS ISO 3864: Part 1 (6) and BS 5499: Part 4 (7). In general, escape signage is to be located to direct occupants to the nearest exit and in the following locations:

- At every choice of direction.
- At every change in level.

- At storey exits.
- At 30m intervals along the route.
- To identify key hazards (such as plant room and storeroom 'fire door keep locked' signage' and 'fire action notice').

Escape signage will be supported by emergency lighting, as outlined in Section 6.3, which is to include external routes to the agreed muster point.

3.9 Occupants Requiring Assistance

It is the responsibility of the operator to ensure that all people can make a safe evacuation; the evacuation plan should not rely on the assistance of the fire and rescue service.

The following measures are provided within the building to assist with evacuation for mobility impaired persons:

- One unobstructed refuge space (1400mm x 900mm), located on each level of each protected stair or protected lobby. The refuges are to be located such that they do not obstruct the general means of escape route.
- Two-way communication connected to the fire alarm panel from each refuge (for details refer to Section 6.1).
- Sounders to all rooms, refer to Section 6.1.
- Flashing beacons also to be included in rooms where occupants may be more isolated, i.e. toilets, changing rooms etc.
- External sounders and beacons to be provided on rooftop exercise area.

The provision of evacuation chairs is not a prescriptive requirement and carry-down may be considered as appropriate by the operator. However, should appropriate training be feasible, it is recommended that one evacuation chair per stair is provided, to enable more efficient evacuation.

In addition, it is suggested that appropriate evacuation measures are incorporated for mobility impaired persons in the swimming pool area. This should be considered in general by the operator, specifically where classes are provided for mobility impaired persons (including pregnant or elderly persons in addition to mentally or physically disabled persons).

3.9.1 Evacuation Management for Mobility Impaired Persons

The operator must provide an evacuation plan to cater for mobility impaired occupants. This plan must consider the intended use of spaces and policy for access and egress of persons using all areas in the building and the measures and responsibilities taken by staff to assist in evacuation.

It is recommended that the plan is regularly reviewed in conjunction with this report and considers the evacuation of disabled visitors as well as developing a Personal Emergency Evacuation Plan (PEEP) for mobility impaired employees or specific building users, in detail.

Further guidance on developing an evacuation plan for mobility impaired persons has been provided by the government and can be downloaded free of charge from:

<http://www.communities.gov.uk/publications/fire/firesafetyassessmentmeans>

Further general fire safety management recommendations are provided in Section 7.

4 Fire Fighting Access & Facilities

The following sections identify the fire service access to the building and the facilities to support fire-fighting operations within the building.

The top floor of the building more than 7.5m and therefore Fire Service operations are to be supported by firefighting shafts. Also, as the floor area is in excess of 900m², at least two firefighting shafts are required.

A summary of Fire Service access is illustrated in the fire strategy drawings provided in Appendix A, but are summarised in the following sections for clarity.

4.1 Sitewide Access

Primary access to the building is provided via surrounding roads, Dale Street, Church Street and Blackburn Street square (outside the main entrance). Due to the existing nature and public use of the access roads, it is proposed that the following access provisions are achieved on route to the site:

- Minimum width of road between kerbs: 3.7m
- Minimum width of gateways: 3.1m
- Minimum turning circle between kerbs: 16.8m
- Minimum turning circle between walls: 19.2m
- Minimum clearance height: 3.7m
- Minimum carrying capacity: 12.5 tonnes
- Maximum reversing distance: 20m.

In addition to the above, access is provided between the Civic Hub building and the existing Market Hall building, to ensure that Fire Service access is provided within 18m of the dry riser inlets to the firefighting shafts. This route will be designed in accordance with the above provisions, ensuring that static furniture and landscaping does not obstruct the route.

Access roads immediately outside of the building should be reviewed as part of the fire risk assessment to ensure that there are no undue obstructions to site access.

4.2 Internal Access

Stair 2 and Stair 3 are each design as firefighting shafts, with Stair 2 serving all floors and Stair 3 serving Lower Ground, Ground and First Floor. Each firefighting shaft is designed as follows:

- Access provided directly to the base of the firefighting stair from the road between Civic Hub and Market Hall. Access is within 18m of the dry riser inlet to each stair.
- Firefighting stair with minimum width of 1300mm. Enclosed as shown in Appendix A with fire resisting construction.
- Firefighting lobby each stair, at all levels (excluding basement). Enclosed as shown in Appendix A with fire resisting construction.
- Dry fire mains (see Section 6.5.2).
- Ventilation to the stair via an Automatic Opening Vent (AOV) with 1.0m² free area located at the head of the stair and with controls located at the base of the stair and fire alarm panel.
- Ventilation to each lobby via an Automatic Opening Vent (AOV) to outside, with 1.5m² free area and with controls located at the base of the stair and fire alarm panel.

As the building does not have a floor in excess of 18m above access level, it is not necessary for the lifts to be firefighting lifts. Protection will continue to be provided within the firefighting shaft.

In addition to the above, Stair 1 is provided with a dry main, with inlet adjacent the main entrance and outlets at each full landing level. The provision of a dry main in Stair 1 is to ensure that all areas of the building are accessible within a 45m hose length.

4.3 Water Supplies

Existing public hydrants are located on Dale Street and Church Street, within 100m of the entrance points to the building.

4.4 Basement Smoke Ventilation

The basement rooms do not have an area in excess of 200m² and are not at a depth more than 3m below adjacent ground. Consequently, smoke ventilation from these areas is not provided.

4.5 Fire Service Plans Box

Although not a requirement under prescriptive guidance, it is recommended that plans are provided for the benefit of fire service use. These should be laminated plans that can be taken by the fire service to support operations (i.e. not mounted to the wall).

The plans should be stored in a metal plans box with other key building information and contact numbers and located next to the fire alarm panels and the main reception. It is recommended that as-built plans identify the following information (not exhaustive):

- Escape routes.
- Location of fire-separating elements (including cavity barriers in walk-in spaces).
- Fire door sets, fitted with a self-closing device and other doors equipped with relevant hardware.
- Locations of smoke detector heads, alarm call points, detection/alarm, fire panel, alarm sounders, fire safety signage, emergency lighting, fire extinguishers, dry mains and other firefighting equipment, and hydrants outside the building.
- Sprinkler systems, including isolating valves and control equipment.
- Smoke ventilation systems including mode of operation and control systems.
- Any high risk areas (e.g. heating machinery, boilers, laundry).

5 Passive Fire Safety Measures

5.1 Internal Wall & Ceiling Linings

Where new wall and ceiling linings are applied, the linings are to meet the performance specification outlined in **Table 6**.

Table 6: Minimum performance requirements for internal wall & ceiling linings

Location	Performance
Escape corridors, circulation routes & escape stairs	Class B-s3, d2
Rooms with area $\geq 30\text{m}^2$	Class C-s3, d2
Rooms with an area $< 30\text{m}^2$	Class D-s3, d2

Performance identified in **Table 6** is to be demonstrated in accordance with BS EN 13501: Part 1 (8) and applied in accordance with manufacturer instructions.

5.2 Internal Fire Resisting Construction

5.2.1 Performance Requirements

Where fire resistance standards are stated, they are to be provided in accordance with BS EN 1363: Part 1 (9) or BS476: Part 20 (10). Performance is identified as follows:

- R – loadbearing capacity
- E – integrity
- I – insulation

Unless otherwise stated:

- Loadbearing elements are required to demonstrate performance for loadbearing capacity (R),
- Separating elements (e.g. compartmentation) are required to demonstrate performance for integrity and insulation (EI),
- Elements that are both loadbearing and separating (e.g. loadbearing compartment walls) are required to demonstrate performance for loadbearing capacity, integrity and insulation (REI).

5.2.2 Elements of Structure

Elements of structure are considered to be the structural frame of the building, including beams, columns, loadbearing walls, all floors and galleries.

The building is constructed of steel frame, composite concreted deck and infill partition plasterboard walls. Elements of the external wall are curtain wall glazing.

All elements of structure proposed in the building will be protected to achieve a 60 minute period of fire resistance (REI) in accordance with Section 5.2.1. Protection is required to all exposed surfaces of elements of structure, where they would otherwise be affected by fire.

Elements of structure supporting a roof is not required, except in areas where the plant equipment is substantial or if rooftop means of escape is required. Consequently, the 2nd Floor slab (with plant and external exercise area above) and associated structure is to be protected to a 60 minute period of fire

resistance. The 2nd Floor roof and the swimming pool roof do not require protection (this is to be reviewed if plant is located on these roofs in the future).

5.2.3 Compartmentation

The recommended compartmentation within the building is illustrated in the fire strategy drawings provided in Appendix A. For avoidance of doubt, recommended compartmentation is also identified in **Table 7** and should be referenced in conjunction with drawings.

The building footprint on each individual floor is less than 8000m² and therefore internal compartment walls are not required in order to sub-divide large compartments.

Due to the construction and protection to each floor, it is proposed that floors are considered as compartment floors, with exception to the swimming pool enclosure, refer to Section 5.2.4.

Table 7: Compartmentation recommendations

Location	Performance **	Application
Separation between all upper floors	60 minutes (REI)	From underside
Sub-division of basement floor	60 minutes (REI)	From underside
Enclosure of all service risers ****	60 minutes (REI)	Each side separately
External walls (except unprotected areas) *	60 minutes (E) 15 minutes (I)	Inside only
Enclosure of firefighting shaft (Stair 2/Stair 3)	120 minutes (REI) 60 minutes (REI)	Outside to inside Inside to outside
Enclosure of Stair 2 and Stair 3	60 minutes (REI)	Each side separately (wall to firefighting lobby)
Enclosure of Stair 1	60 minutes (REI)	Each side separately
Enclosure of lift shafts	60 minutes (REI)	Each side separately
Enclosure of protected lobbies/corridors	30 minutes (REI)	Each side separately
Protection to within 1800mm of escape routes	30 minutes (REI)	From inside
Enclosure of dead-end corridors	30 minutes (REI)	Each side separately
Enclosure of rooms of special fire hazard ***	30 minutes (REI)	Each side separately
Enclosure of store rooms	30 minutes (EI)	Each side separately
Enclosure of electrical rooms	60 minutes (EI)	Each side separately

Notes:

* Refer to Appendix B for maximum area of unprotected openings (including doors and windows).

** REI is stated to ensure that any loadbearing walls are also captured. REI should be considered as outlined in Section 5.2.1.

*** Rooms of special fire hazard include those that house boilers, storage of flammable substances, oil filled transformer and switchgear, fixed internal combustion engines

**** Where risers exist, they should be enclosed throughout their full height or appropriate fire stopping provided within the riser between basement and ground floor.

5.2.4 Compartment Floors

The construction and protection of the floors are such that they can be considered as compartment floors. This is supported by the provision of 60 minute fire enclosure to vertical risers and protected stairs, the provision of automatic fire and smoke dampers to air handling ductwork and fire stopping (see Section 5.2.6).

Consequently, this provision supports the limitation of external fire spread across adjacent boundaries (refer to Section 5.3.2).

It is noted that the swimming pool is not enclosed within fire resisting construction, and therefore would typically be considered as an atrium linking floors. However, in this instance it is proposed that additional protection measures are not provided on the basis that swimming pool is a large volume that does not comprise combustible materials and is lined in materials that do not support fire spread. Therefore, although fire in the accommodation may break into the swimming pool via the glazing, it is unlikely to be a route for fire spread from floor to floor due to its significant non-combustible volume, i.e. it may act as an inherent 'fire break'. It is also noted that the areas adjacent to glazing are transient spaces used for circulation and therefore less likely to be a source of fire development.

The independent unit (Clip n climb) is also a double height volume but is separated from the larger building with 60 minute compartment walls. Consequently, it is unlikely that double-height unit would be a route for fire spread, other than within its own compartment.

5.2.5 Fire Doors

In order to support the recommended compartmentation outlined in Section 5.2.3, it is recommended that fire doors are provided as illustrated in Appendix A. For avoidance of doubt, recommended fire doors are also identified in **Table 8** and should be referenced in conjunction with drawings.

Table 8: Fire door recommendations

Location	Performance	Fire Door
Enclosure of firefighting shafts (Stair 2/Stair 3)	120 minutes (REI)	FD60S
Enclosure of Stairs	60 minutes (REI)	FD30S
Enclosure of all service risers *	60 minutes (REI)	FD30(S)**
Enclosure of lift shafts	60 minutes (REI)	FD30
Enclosure of protected lobbies/corridors	30 minutes (REI)	FD30S
Protection to within 1800mm of escape routes	30 minutes (REI)	FD30S
Stores and rooms of special fire hazard ***	30 minutes (REI)	FD30(S)**
Enclosure of electrical rooms	60 minutes (REI)	FD30(S)**

Notes:

* All risers may not have been identified on fire strategy drawings. Where they exist, they are to be enclosed throughout their full height.

** Doors to incorporate smoke seals (S) where located within protected lobby enclosures.

*** Rooms of special fire hazard include those that house boilers, storage of flammable substances, oil filled transformer and switchgear, fixed internal combustion engines or rooms with open heat sources.

Fire door assemblies are to be those tested to achieve the required performance from both sides of the door, in accordance with BS476: Part 22 (11) or BS EN 1634: Part 1 (12).

Fire doors denoted with the suffix 'S' require 'smoke seals'. Where cold smoke seals are required, they are to comply with BS 476: Part 31 (13) or BS EN 1634: Part 3 (14).

Note that smoke seals and intumescent strips are not normally required along the threshold of a door. However, the gap between the floor surface finish at the threshold and the base of the door must not exceed that associated with the tested door assembly.

5.2.6 Fire Stopping

All penetrations through the identified compartment walls or floors are to be fire stopped with proprietary products having performance equal to that of the fire resisting floor or wall through which it passes.

Fire Stopping Materials Performance

Proprietary fire-stopping and sealing systems must achieve the appropriate level of fire performance (refer to **Table 7**) when tested in accordance with BS 476: Part 22 (11), BS EN 1366: Part 3 (15) or BS EN 13501: Part 2 (16).

To maintain the physical integrity, fire stopping should be reinforced with non-combustible materials or materials of limited combustibility in the following conditions:

- Where the gap is greater than 100mm; and
- Where non-rigid or flexible materials are used.

Junction of Compartment Floors with External Walls

Fire stopping achieving a 60 minute period of fire resistance (EI) is to be provided at the junction of all compartment floors and external walls. Detail of the fire stopping is to recognise the material of the external wall, in particular the curtain walling, and be installed so that there is limited risk of internal fire spread prior to the failure of the external wall.

Fire Stopping of Pipes

The following pipes of a restricted diameter can be provided with fire stopping in the floor or wall around the pipe:

- Non-combustible material with a melting point of 800°C (cast iron, copper or steel) having a nominal internal diameter of ≤ 160 mm.
- Lead, aluminium, aluminium alloy, uPVC (complying with BS 4514 or BS 5255) and fibre cement having a nominal internal diameter of ≤ 40 mm, and
- Any other material not stated above having a nominal internal diameter of ≤ 40 mm.

All other penetrations through fire resisting construction must be adequately fire stopped using either a suitable proprietary product, or a sleeve where appropriate, to maintain the period of fire resistance.

Fire Stopping of Ductwork

Ductwork systems used for air or smoke transfer provide a route for smoke and heat transmission. Where ductwork is installed, the following measures are to be adopted:

- Ventilation ducts, and their associated plant supplying or extracting air directly to or from a protected escape route, will not also serve other areas.
- Ductwork passing through fire resisting separating elements will be:
 - Fire rated ductwork (EI) or,
 - Enclosed within fire resisting construction (EI)

- Automatic fire and smoke dampers (closing on automatic detection) are to be provided where non-rated ductwork passes through fire resisting construction (with exception of any kitchen extract, which should be fire rated ductwork or in fire resisting enclosure as above).

Protection to Flues

Where a flue, or duct containing flues or appliance ventilation duct(s), passes through a compartment wall or compartment floor or is built into a compartment wall, each wall of the flue or duct is to have a fire resistance of at least half that of the wall or floor i.e. 30minutes (EI).

5.2.7 Cavity Barriers

Cavity barriers are to be provided to separate and sub-divide concealed spaces as noted in this section. All cavity barriers will achieve at least a 30 minutes period of fire resistance (E) and 15 minutes period of fire resistance (I) and are to be installed in accordance with manufactures guidelines.

Large Cavities

Cavity barriers will be required to sub-divide any cavity between the roof and a ceiling, to a maximum dimension of 20m (in any direction).

The maximum dimension of any other cavity (not between the roof and a ceiling) is 20m where the exposed surfaces are Class A1, Class A2, Class B or Class C (in accordance with BS EN 13501: Part 1) (8) and 10m where materials are of a lower performance.

Protected Escape Routes

Any cavity that exists above or below any fire-resisting construction or fire door (i.e. because the construction is not carried to full storey height or to the underside of the roof covering), must be either:

- Fitted with cavity barriers on the line of the enclosure(s) to the protected escape route; or
- For cavities above the fire-resisting construction, be enclosed on the lower side by a 30 minute fire-resisting ceiling (EI) applied to above and below the ceiling, and which extends throughout the compartment.

The above is also applicable to any cavity above fire doors sub-dividing a corridor or protected corridor.

External Wall Openings – Cavity Closers

Cavity barriers must be provided around all openings, including windows, doors and ventilation openings through any external cavity wall.

Acceptable alternatives to a tested cavity barrier system used around openings include the following:

- Imperforate steel with a thickness of not less than 0.5mm, or
- Imperforate timber with a thickness of not less than 38mm, or
- Polythene-sleeved mineral wool or mineral wool slab (installed under compression in the cavity), or Calcium silicate, cement-based or gypsum-based boards at least 12mm thick.

5.3 External Wall Construction

5.3.1 Materials & Construction

The external surfaces of walls are to achieve a performance of Class B-s3,d2 in accordance with BS EN13501: Part 1 (8) up to a height of 10m above ground and also up to the full height of the

elevations adjacent to the external exercise area on 2nd Floor. Note that timber cladding at least 9mm would also be acceptable.

As the does not comprise floors above 18m from grade, there are no further controls on combustibility of external wall materials or insulation in addition that outlined above. However, although not specifically suggested in prescriptive guidance, it is recommended that combustible insulation and cladding with performance of Class B or worse is avoided.

Cavity barriers must be provided in the external wall construction, as outlined in Section 5.2.7.

5.3.2 External Fire Spread to Adjacent Buildings

Unless otherwise stated, it is proposed that solid wall construction (i.e. not glazing or windows or doors or vents) on each elevation will provide at least 60 minutes fire resistance (E) and 15 minutes fire resistance (I), applied to the inside of the building only.

BR 187 (17) methodology has been adopted for the assessing the risk of external fire spread from unprotected openings across the relevant boundaries.

The assessment is based on the compartmentation of floors and the individual unit (Clip n climb), as noted in Section 5.2.4. The consideration of compartment floor is only applicable to the South Elevation, which is more isolated from the two-storey pool volume.

In order to demonstrate conservatism, the assessment of the North, West and East elevations consider the whole elevation as un-compartmented (with exception of the separate Clip n Climb unit). Note that these elevations are also therefore compliant when considering compartment floors.

Designation of elevations and the location of the notional or adjacent site boundary, and assessment of allowable unprotected areas, is illustrated in Appendix B. A summary of compliance is demonstrated in **Table 9**.

Table 9: External fire spread assessment summary

Facade	Dimension	Enclosing Rectangle ⁴⁰	Unprotected Area	Required Boundary	Actual Boundary
North	68.9m x 4.95m	80m x 6m	28%	2.75m	8.7m
East 1 *	20.3m x 4.95m	21m x 6m	33%	2.75m	6.4m
East 3 *	16.3m x 4.95m	18m x 6m	26%	2.0m	4.5m
East - unit	11.4m x 6.5m	12m x 9m	55%	4.75m	6.4m
South 1	65.7m x 4.95m	80m x 6m	25%	2.00m	3.65m
South - unit	20.6m x 7.07m	21m x 9m	30% ***	3.50m	3.65m
West 1 **	22.1m x 4.95m	24m x 6m	20%	1.5m	6.4m
West 2 **	11.98m x 6.92m	15m x 9m	30%	3.0m	12.2m

Notes:

- * East elevation is considered as two separate radiating panels due to the separation of the unprotected openings from each other (as per BR187).
- ** West elevation is considered as two separate radiating panels due to the recess of the plant areas from the swimming pool areas.
- *** Where the spandrel panel is provided with fire resisting construction.

5.4 Roof Construction

The 2nd Floor is used for external exercise area and substantial external plant equipment. These areas are therefore considered as a floor and protected in accordance with Section 5.2.2.

The roof areas (above the pool and 2nd Floor) are not specifically used as floors. Therefore, it is not necessary to provide fire resisting protection to the roof construction or any supporting structure.

5.4.1 External Roof Surface Materials

Areas of the roof are located within 6m from the notional site boundary of the building and therefore, roof covering material achieving a performance of Class AA/AB/AC, when tested to BS476: Part 3 (18) is appropriate.

Note that the above existing national (BS476) classifications in BS9999 may not apply in accordance with best practice and the appropriate performance in accordance with contemporary guidance is B_{ROOF}(t4) tested in accordance with BS EN 13501: Part 5 (19).

Note that the above may be reduced for areas of the flat roof that area at least 6m from adjacent buildings, in this instance the roof can be BA/BB/BC or C_{ROOF}(t4) when tested as above.

As an alternative to the above, the roof can be constructed in accordance with the EU commission decision on appropriate construction. In general, a concrete or profiled sheet of galvanised steel/aluminium external construction supported by steel supporting structure would be suitable to achieve the recommended performance. However, confirmation should be sought from the designer/supplier of any prefabricated roof structure.

Roof above Fire Resisting Walls

Where the roof over sails a compartment or fire resisting wall, an area of the roof within 1500mm of each side of the wall should be constructed with materials achieving Class AA/AB/AC, when tested to BS476: Part 3 (18) or B_{ROOF}(t4) tested in accordance with BS EN 13501: Part 5 (19).

If roof support members pass through the fire resisting wall, fire protection to these members for a distance of 1500mm on either side of the wall may be needed to delay distortion at the junction.

Rooflights

The roof areas do not provide any roof lights. However, where the roof is to be constructed of thermoplastic materials (for sunlight); additional measures are to be considered.

6 Active Fire Safety Systems

6.1 Automatic Detection & Alarm System

The building is to be provided with an analogue addressable L2 automatic detection and alarm system, designed in accordance with BS 5839: Part1 (20). The system extends to all areas including the individual (Clip n climb) unit, operated from the main fire alarm panel.

Coverage will be via smoke detectors in all escape routes and rooms leading to escape routes. In addition, smoke detectors should be provided in all store rooms and plant rooms. It is proposed that the following areas can be excluded from the required coverage:

- Toilets, shower rooms and bathrooms,
- Toilet lobbies,
- Small cupboards with area < 1m² (including risers separated at floor and ceiling),
- Shallow voids/cavities <800mm

Type A manual call points are to be provided at all storey exits. It is recommended that these are provided with a protective cover to avoid accidental activation.

Fire alarm is to be provided via sounders and beacons throughout the building. External sounders and beacons should be provided to the flat roof.

The detection and alarm system should be served by a fire alarm panel, located at the main entrance/reception to the building. A connection should also be provided to a repeater panel located at the entrance of the individual (Clip n climb) unit.

An automatic signal to the Fire Service call centre (Redcare or similar) is not to be provided.

The system is to be signed-off as an L2 system by the specialist designer.

Principle Cause & Effect

The system will operate on a single-stage basis, whereby activation of a smoke/fire detector, manual call point or staff intervention will result in the following:

- Fire alarm activates throughout the building, including individual (Clip n climb) unit.
- House lights (associated with multimedia studios) are raised.
- Music systems (associated with multimedia studios) are turned off.
- Automatic fire and smoke dampers activate (refer to Section 5.2.6).
- Other systems shut down/deactivate (door hold-opens, door security, gas supply etc.).
- All staff to undertake specific evacuation responsibilities.

6.2 Refuge Communication

A two-way communication system is to be provided at each protected refuge, to allow occupants in need of support to communicate with the operator at the fire alarm panel.

Communication points are to be designed and installed to perform as a Type B outstation, designed in accordance with BS 5839: Part 9 (21).

Master stations for the two-way communication system should be provided at the main reception/fire alarm panel.

6.3 Emergency Lighting

Emergency lighting is to be provided throughout the building, designed in accordance with BS 5266: Part 1 (22). Emergency lighting is also to be provided on external escape routes to muster points.

A minimum duration of 1 hour is appropriate as the building is unlikely to continue operation during mains failure.

6.4 Electrically Powered Doors/Locks on Escape Routes

Where provided, electrically powered locks to doors on escape routes are to return to the unlocked position on each of the following:

- On operation of the fire alarm system, and
- On activation of a manual door release unit (green break-glass box), and
- On loss of power or system error.

6.5 Wet Systems

6.5.1 Suppression

Automatic suppression is provided in the building.

6.5.2 Rising Mains

Dry risers are provided to support the firefighting shafts (Stair 2 and Stair 3). In addition, a dry riser is provided within Stair 1 in order that all areas can be reached within a 45m hose distance.

Dry rising mains inlet is provided to the external access point of each of the stairs. Dry riser outlets are provided in the firefighting lobby of Stair 2 and Stair 3 and within the stair enclosure of Stair 1.

The dry mains are to be installed in compliance with BS 9990 (23) and BS 5041-2 (24).

6.6 Ventilation Systems

Mechanical smoke ventilation systems are not provided in the building. However, natural vents are provided in support of the firefighting shafts (Stair 2 and Stair 3).

Stair 2 and Stair 3 will each be provided with an automatic opening vent (AOV) with free area of 1.0m², located at high level on the top storey of the stair. The firefighting lobby to Stair 2 and Stair 3 will be provided with an automatic opening vent (AOV) to external, located at each lobby level.

The smoke vents will be designed and installed in accordance with BS EN 12101-2 (25).

The lobby AOV will activate upon smoke detection within the lobby itself. The associated stair AOV will activate simultaneously with the adjacent lobby AOV (on any floor).

An override switch is to be provided at the base of the stair and/or at the fire alarm panel for fire service control.

6.7 Emergency Power Supplies

All active fire safety systems within the building are activated upon local battery back-up. This should be reviewed as part of the fire risk assessment to ensure that all are suitably operational and continue to be appropriate. This is particularly important where local battery back-up is relied upon for efficacy of automatic detection and automatic fire and smoke dampers.

It is recommended that individual testing of each system and battery back-up is recorded within the fire risk assessment.

7 Fire Safety Management Recommendations

It is recommended that at least a Level 2 Management regime should be adopted as a minimum. This includes the following responsibilities for the building manager/responsible person:

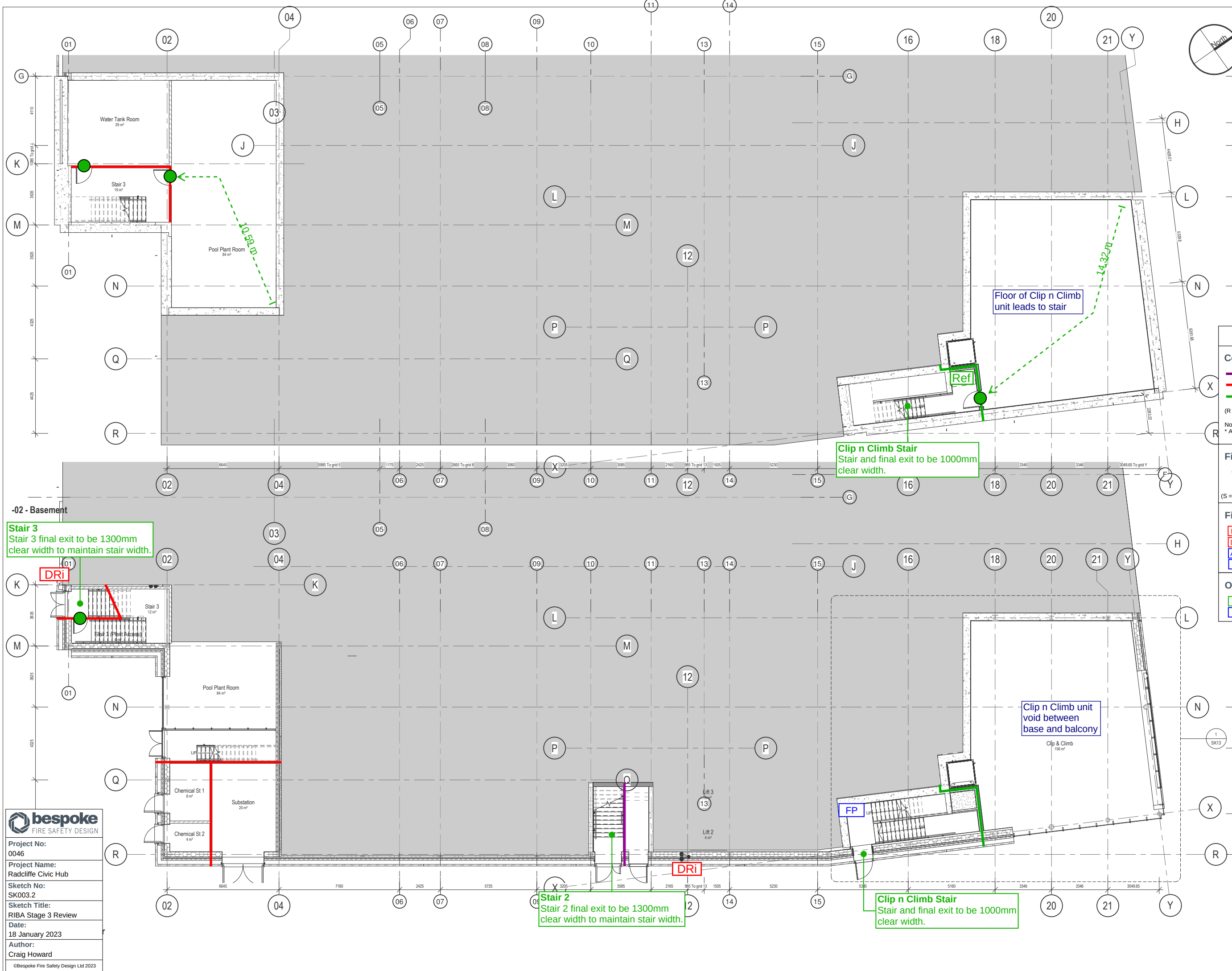
- Reacts to the impact of proposed changes to the building, identifies alternative protection and management measures required and ensures implementation.
- Responsibility for the management of fire safety may be divided over several different individuals, departments or even companies, and the implementation of changes may require approval of those not directly responsible for management of fire safety within the premises.
- Staffing level specific to the building considering the use of the building and nature of the occupants. Includes sufficient trained personnel to ensure all less able-bodied occupants are assisted out of the building effectively in an emergency. Contingency for sickness or holiday is not required as a minimum.
- Ensures sufficient staff numbers are trained in fire safety and evacuation procedures and provision of fire wardens to assist evacuation. This is particularly important for evacuation of occupants from within the swimming pool area and management of those persons at muster points, with appropriate measures to keep those occupants warm and protected from external conditions.
- Work control is developed reactively with clear lines of responsibility with a permit system and logging and audit processes.
- Communications ensure that those involved are informed of relevant fire safety information. Contingency for systems failure is not required as a minimum.
- Fire safety equipment is functional at all times when the building is in use. Alternative procedures for times when equipment is unavailable are determined reactively.
- Liaison with the building management is proactive, including notification of changes in Risk Profile and other key factors. Routine meetings are not required as a minimum.
- Contingency planning takes account of a narrow range of possible emergency incidents.
- Maintenance and testing – policy to identify appropriate regime for testing/maintenance/cleaning of service routes and plant. In addition, regular testing and maintenance logs to be provided for active fire protection systems.
- Occupant load – adequate control of occupant load per floor and in sensitive areas such as inner rooms.
- Evacuation Strategy – policy for receipt of alert signals, alarm and communication of alarm to staff and fire wardens located throughout the respective buildings. Particularly in regard to mobility impaired persons.

The above reflects a well-managed building, and further guidance can be found in Section 4 of BS 9999. Alternative measures may be equally appropriate, subject to the use and management capabilities. As a minimum, it is recommended that the following information be obtained and stored at the same accessible location (noting additional precautions for data protection apply):

- The fire safety strategy (this document) and management policy of the building.
- The evacuation strategy and plans showing escape routes and muster points.
- As-built details and location of compartmentation, cavity barriers, fire doors, fire stopping and opening protectives, smoke detector heads, alarm call points, alarm panels, emergency communication systems, fire safety signage, emergency lighting, fire extinguishers.

Appendix A – Fire Strategy Review Drawings

The following pages illustrate the fire strategy recommendations made in this document. These drawings should be reviewed in conjunction with the other sections of this report.



Notes
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Scale Bars		TO BE USED ONLY AS GUIDANCE	
1:100	mm	0	1000
1:200	mm	0	2000
1:500	mm	0	5000
1:1250	mm	0	12500

Fire Strategy Key

Compartmentation

- 120 minutes (EI) *
- 60 minutes (EI) *
- 30 minutes (EI) *

(R = Load-bearing capacity, E = Integrity, I = Insulation)

Notes:
* Also (R) where the wall is an element of structure.

Fire Doors

- FD60S / FD60
- FD30S / FD30

(S = Smoke control to resist leakage at ambient temperature)

Firefighting

- DRi Dry riser inlet
- DRo Dry riser outlet
- AOV Lobby vent - 1.5sqm
- SV Stair vent - 1.0sqm

Other

- Ref Protected refuge with comms
- FP Fire Alarm Panel (indicative)

Rev	Description	By	Date
P06	Updated following client comment. Building lifted 600mm. Lower ground floor doors and associated stairs adjusted.	DAS	23.12.22
P05	Stage 3 issue, updated to suit redesigned elevations.	JAW	13.10.22
P04	Plans updated to suit redesigned elevations	RJF	05.10.22
P03	Updated to suit scheme revisions.	JAW	08.09.22
P02	Updated to suit structural coordination with Lower Ground level added	RJF	08.08.22
P01	Updated to suit client comment. Clip & Climb footprint updated.	DAS	19.05.22

Rev: VINCI Construction UK Ltd

Client: Radcliffe Hub

Job: GA Plan - -02 Basement & -01 Lower Ground Floor

Ref: P5860 2000

Scale: 1 : 100

Author: DM

Check: DAS

Design: DAS

Contract: Construction

As Built: As Built

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Project No:
0046

Project Name:
Radcliffe Civic Hub

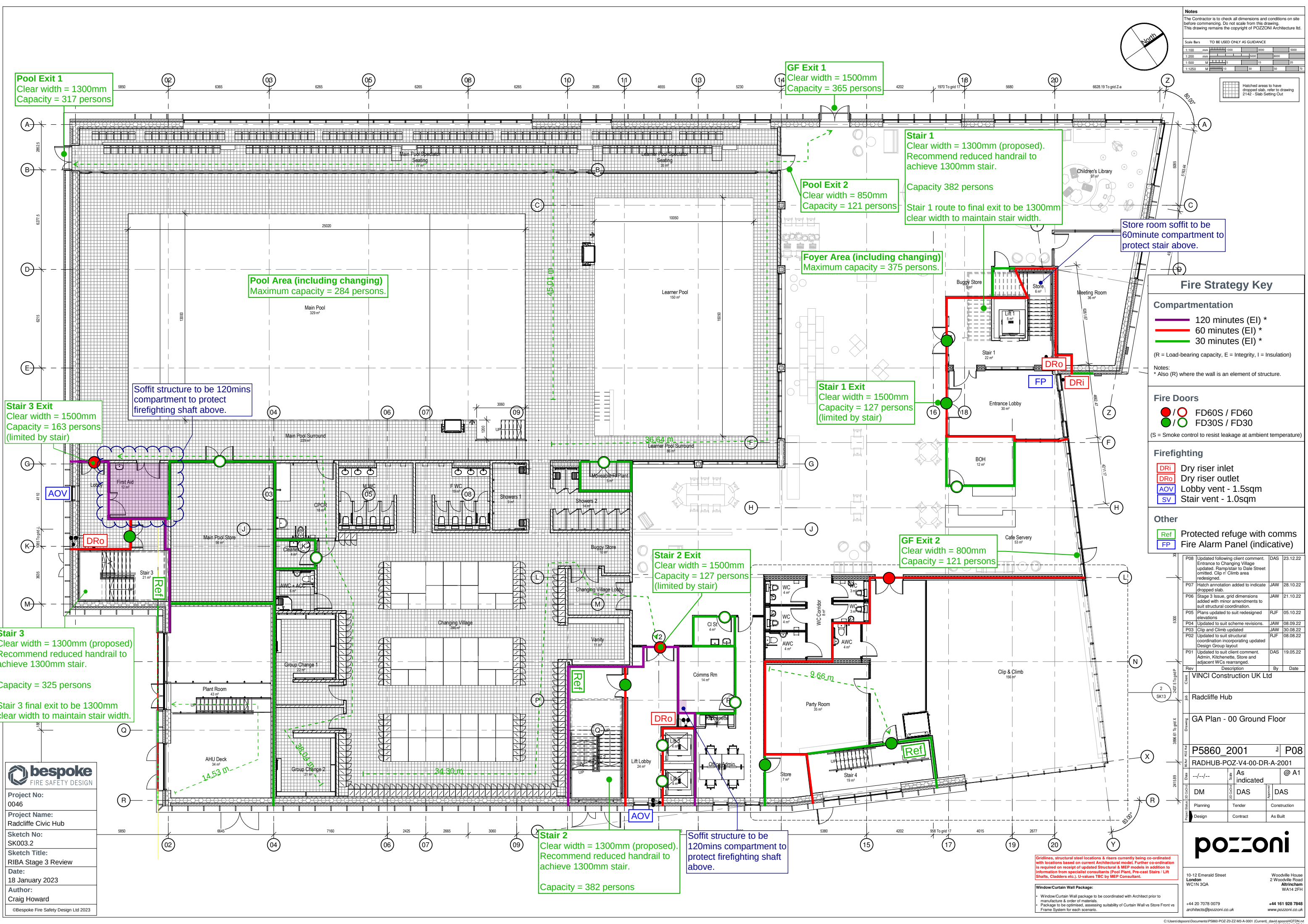
Sketch No:
SK003.2

Sketch Title:
RIBA Stage 3 Review

Date:
18 January 2023

Author:
Craig Howard

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1:200	mm	1:200	mm
1:500	mm	1:500	mm
1:1000	mm	1:1000	mm

Hatched areas to have dropped slabs, refer to drawing 2142 - Slab Setting Out

Fire Strategy Key

- Compartmentation**
- 120 minutes (EI) *
 - 60 minutes (EI) *
 - 30 minutes (EI) *
- (R = Load-bearing capacity, E = Integrity, I = Insulation)
- Notes:
* Also (R) where the wall is an element of structure.

- Fire Doors**
- FD60S / FD60
 - FD30S / FD30
- (S = Smoke control to resist leakage at ambient temperature)

- Firefighting**
- DRI Dry riser inlet
 - DRo Dry riser outlet
 - AOV Lobby vent - 1.5sqm
 - SV Stair vent - 1.0sqm

- Other**
- Ref Protected refuge with comms
 - FP Fire Alarm Panel (indicative)

Rev	Description	By	Date
P08	Updated following client comment. Entrance to Changing Village updated. Ramp stairs to Dale Street omitted. Clip n' Climb area redesigned.	DAS	23.12.22
P07	Hatch annotation added to indicate dropped slab.	JAW	28.10.22
P06	Stage 3 issue, grid dimensions added with minor amendments to suit structural coordination.	JAW	21.10.22
P05	Plans updated to suit redesigned elevations.	RJF	05.10.22
P04	Updated to suit scheme revisions.	JAW	08.09.22
P03	Clip and Climb updated	JAW	30.08.22
P02	Updated to suit structural coordination incorporating updated Design Group layout	RJF	08.08.22
P01	Updated to suit client comment. Admin, Kitchenette, Store and adjacent WCs rearranged.	DAS	19.05.22

VINCI Construction UK Ltd

Radcliffe Hub

GA Plan - 00 Ground Floor

P5860 2001

RADHUB-POZ-V4-00-DR-A-2001

As indicated @ A1

DM DAS DAS

Planning Tender Construction

Design Contract As Built

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bespoke
FIRE SAFETY DESIGN

Project No: 0046

Project Name: Radcliffe Civic Hub

Sketch No: SK003.2

Sketch Title: RIBA Stage 3 Review

Date: 18 January 2023

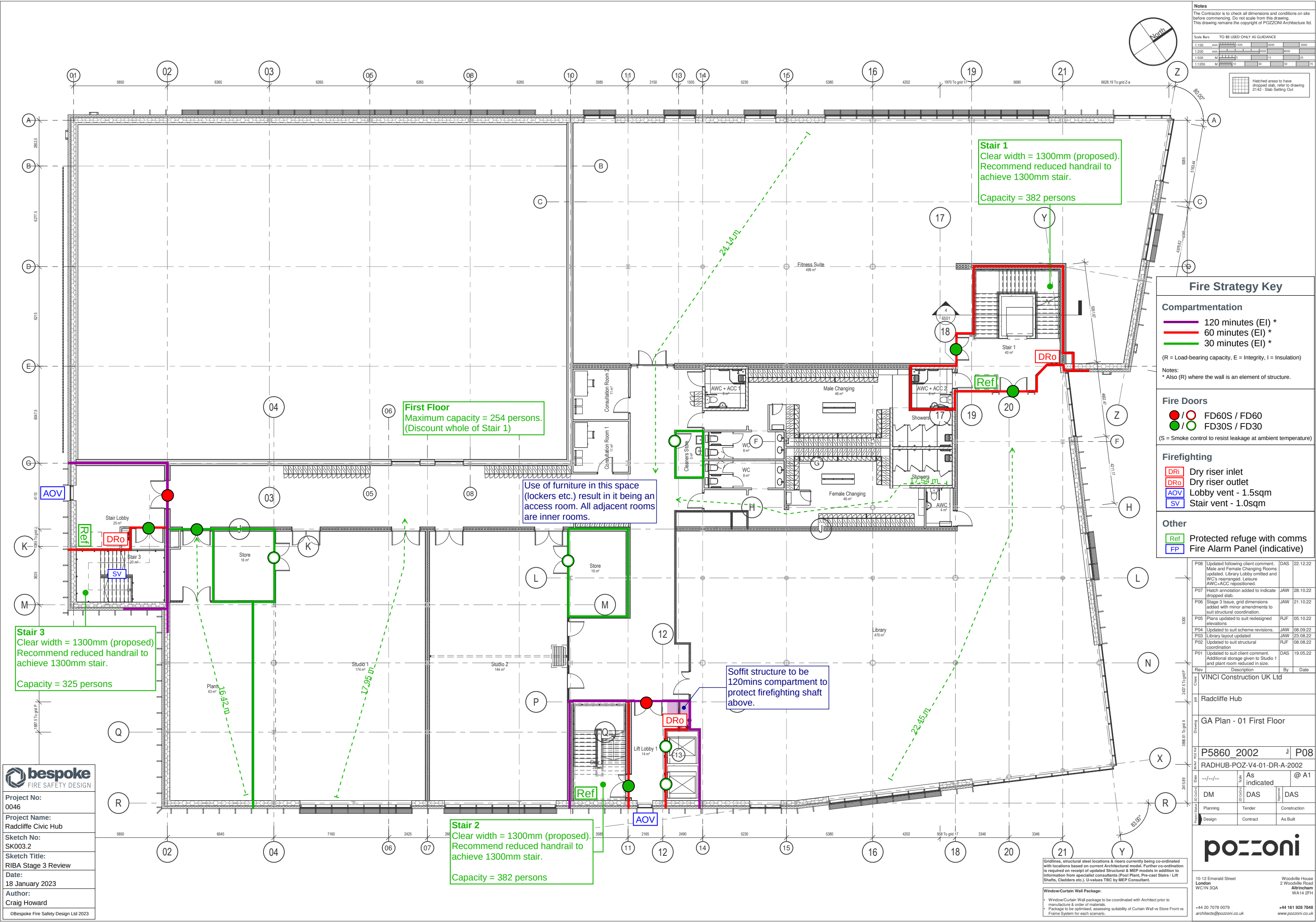
Author: Craig Howard

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Gridlines, structural steel locations & risers currently being co-ordinated with locations based on current Architectural model. Further co-ordination is required on receipt of updated Structural & MEP models in addition to information from specialist consultants (Pool Plant, Pre-cast Stairs / Lift Shafts, Cladders etc.). U-values TBC by MEP Consultant.

Window/Curtain Wall Package:

- Window/Curtain Wall package to be coordinated with Architect prior to manufacture & order of materials.
- Package to be optimised, assessing suitability of Curtain Wall vs Store Front vs Frame System for each scenario.





Project No:
0046

Project Name:
Radcliffe Civic Hub

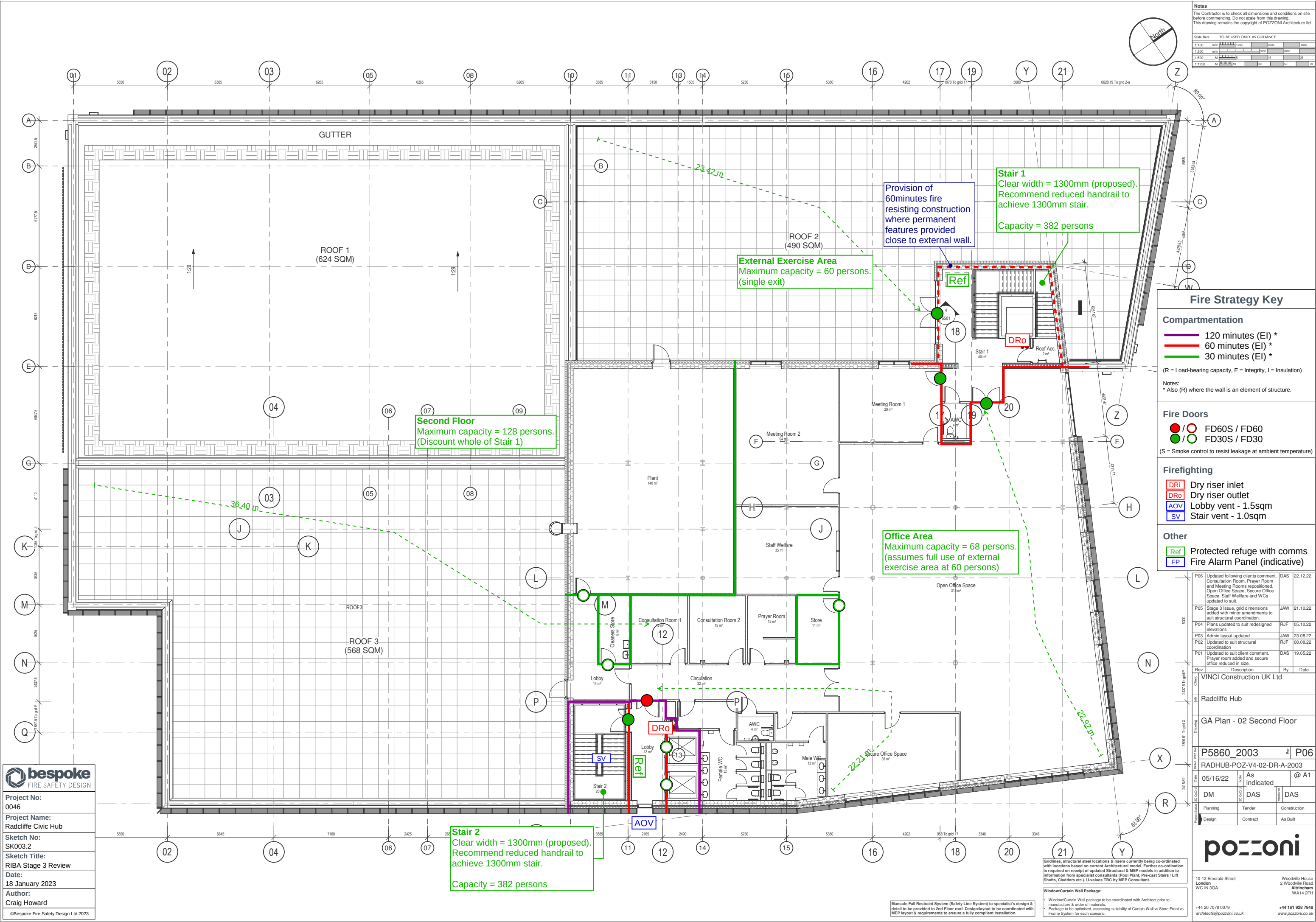
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Date:
18 January 2023

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FIRE SAFETY DESIGN

Project No:

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Project Name:

Radcliffe Civic Hub

Sketch No:

SK003.2

Sketch Title:

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Date:

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Sketch Title:

RIBA Stage 3 Review

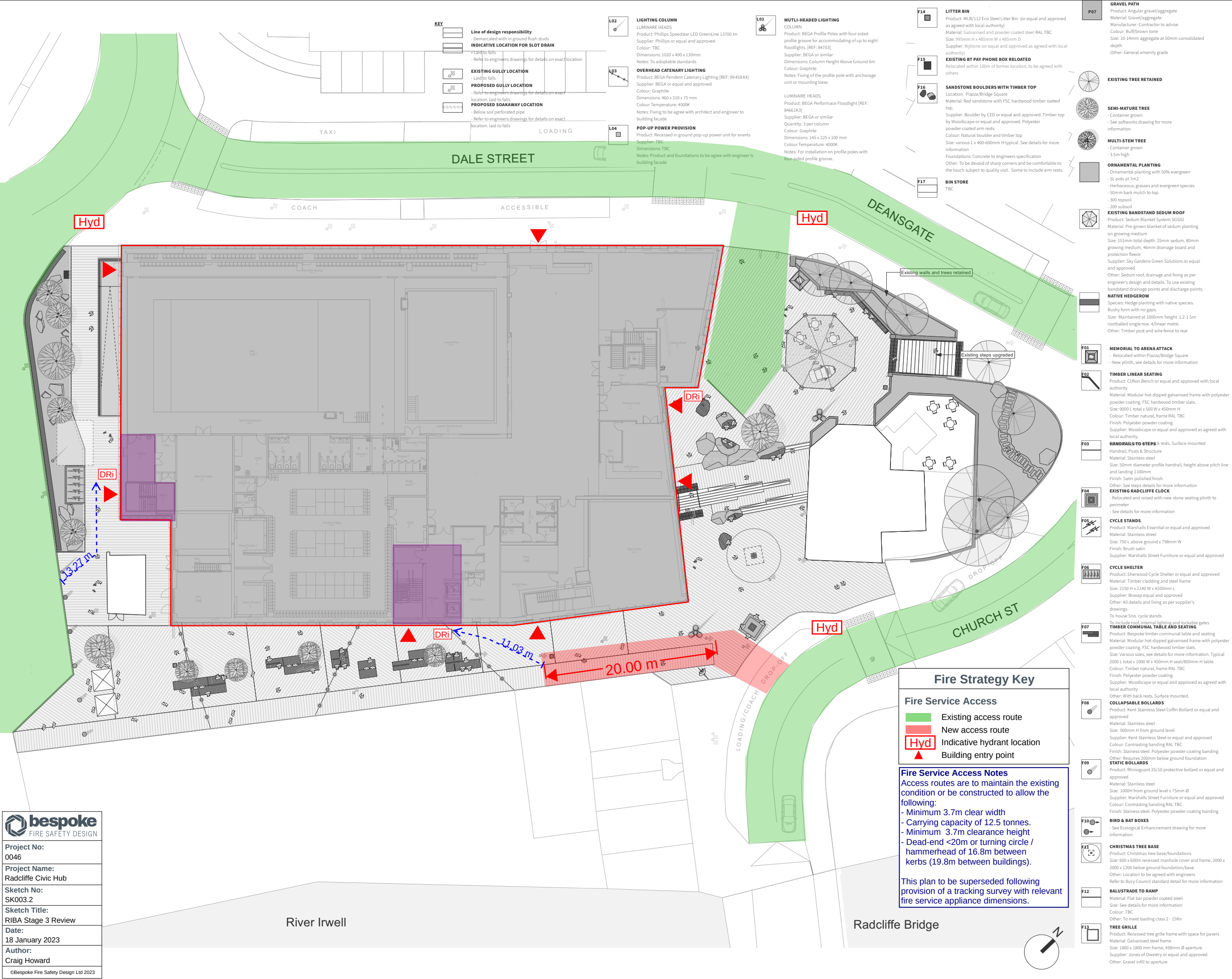
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18 January 2023

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NOTES:

1. Do not scale from this drawing.

2. Always work to noted dimensions.

3. All dimensions are in millimetres unless otherwise stated.

4. All setting out, levels and dimensions to be agreed on site.

5. The dimensions of all materials must be checked on site before being laid out.

6. This drawing must be read with the relevant specification clauses and detail drawings.

7. Order of construction and setting-out to be agreed on-site.

P01.1

P01.2

CONCRETE PAVING WITH NATURAL AGGREGATE FINISH

Location: Site wide

Material: Kellen - Lisco or equal and approved

Manufacturer: Hardscape Ltd or equal and approved

Colour: Mid grey tones TBC

Size: W150mm x L300mm x D 80mm to vehicular (P01.1) & D 62mm to pedestrian (P01.2)

Bond/Finish: TBC. Include bespoke end units

P02

CORDUROY WARNING PAVING

Location: To top and bottom of steps in public realm

Material: Corduroy concrete units

Manufacturer: Marshalls or equal and approved

Colour: Contrasting tone to adjacent paving

Size: 400mm L x 400mm W x 50mm D

Bond: Stack bond

SANDSTONE CUT BOULDERS

Location: Site wide

Material: Red sandstone with artwork opportunity integrated TBC

Supplier: CED or equal and approve

Colour: Natural

Size: 1000mm L x 600mm H

Foundations: Concrete to engineers specification

Other: To be devoid of sharp corners and be comfortable to the touch subject to quality visit

P04

STEPPING STONES

Product: Natural sandstone slabs

Material: Red sandstone

Manufacturer: CED or equal and approve

Colour: Natural red tone

Size: 800 L x 300 W x 80mm D

Other: To be flush in gravel path in concrete haunched foundation

P05

GRANITE STEPS

Material: Granite

Colour: Royal White steps and midnight black nosing

Finish: Steps and nosings flamed

Supplier: Hardscape or equal and approved

Size: W 300 x L 915 x D 190. Top step W 400. 50x50mm nosing

Other: Artwork opportunity on risers

Refer to details for more information

P06

RAMP TO HUB BUILDING

Ramp

Material: Insitu, fine smooth finished cast high-quality concrete wall, tapering with ramp. Brushed concrete pavings.

Size: See details for more information.

Other: Subject to further design detail with engineers

P07

Gravel Path

Product: Angular gravel/aggregate

Material: Gravel/aggregate

Manufacturer: Contractor to advise

Colour: Buff/brown tone

Size: 10-14mm aggregate at 50mm consolidated depth

Other: General amenity grade

F01

Memorial to Arena Attack

Relocated within Piazza/Bridge Square

New plinth, see details for more information

F02

Timber Linear Seating

Product: Clifton Bench or equal and approved with local authority

Material: Modular hot-dipped galvanised frame with polyester powder coating, FSC hardwood timber slats.

Size: 9000 L total x 500 W x 450mm H

Colour: Timber natural, frame RAL TBC

Finish: Polyester powder coating

Supplier: Woodscape or equal and approved as agreed with local authority

F03

Handrails to Steps

Handrail, Posts & Structure

Material: Stainless steel

Size: 50mm diameter profile handrail, height above pitch line and landing 1100mm

Finish: Satin polished finish

Other: See steps details for more information

F04

Existing Radcliffe Clock

Relocated and raised with new stone seating plinth to perimeter

See details for more information

F05

Cycle Stands

Product: Marshalls Essential or equal and approved

Material: Stainless steel

Size: 750 L above ground x 798mm W

Finish: Brush satin

Supplier: Marshalls Street Furniture or equal and approved

F06

Cycle Shelter

Product: Sherwood Cycle Shelter or equal and approved

Material: Timber cladding and steel frame

Size: 2150 H x 2140 W x 4100mm L

Supplier: Broxap equal and approved

Other: All details and fixing as per supplier's drawings

To house Sino cycle stands

To include roof internal lighting and lockable gates

F07

Timber Communal Table and Seating

Product: Bespoke timber communal table and seating

Material: Modular hot-dipped galvanised frame with polyester powder coating, FSC hardwood timber slats.

Size: Various sizes, see details for more information. Typical 2000 L total x 1000 W x 450mm H seat/800mm H table

Colour: Timber natural, frame RAL TBC

Finish: Polyester powder coating

Supplier: Woodscape or equal and approved as agreed with local authority

Other: With back rests. Surface mounted.

F08

Collapsible Bollards

Product: Kent Stainless Steel Coffin Bollard or equal and approved

Material: Stainless steel

Size: 900mm H from ground level

Supplier: Kent Stainless Steel or equal and approved

Colour: Contrasting banding RAL TBC

Finish: Stainless steel. Polyester powder coating banding

Other: Requires 200mm below ground foundation

F09

Static Bollards

Product: Rhinoguard 25/10 protective bollard or equal and approved

Material: Stainless steel

Size: 1000H from ground level x 75mm Ø

Supplier: Marshalls Street Furniture or equal and approved

Colour: Contrasting banding RAL TBC

Finish: Stainless steel. Polyester powder coating banding

Other: To meet loading class 2 - 15Kn

F10

Bird & Bat Boxes

See Ecological Enhancement drawing for more information

F11

Christmas Tree Base

Product: Christmas tree base/foundations

Size: 600 x 600mm recessed manhole cover and frame, 2000 x 2000 x 1200 below ground foundation/base

Other: Location to be agreed with engineers

Refer to Bury Council standard detail for more information

F12

Balustrade to Ramp

Material: Flat bar powder coated steel

Size: See details for more information

Colour: TBC

Other: To meet loading class 2 - 15Kn

F13

Tree Grille

Product: Recessed tree grille frame with space for pavers

Material: Galvanised steel frame

Size: 1800 x 1800 mm frame, 498mm Ø aperture

Supplier: Jones of Owesry or equal and approved

Other: Gravel infill to aperture

Fire Strategy Key

Fire Service Access

Existing access route

New access route

Indicative hydrant location

Building entry point

Fire Service Access Notes

Access routes are to maintain the existing condition or be constructed to allow the following:

- Minimum 3.7m clear width

- Carrying capacity of 12.5 tonnes.

- Minimum 3.7m clearance height

- Dead-end <20m or turning circle / hammerhead of 16.8m between kerbs (19.8m between buildings).

This plan to be superseded following provision of a tracking survey with relevant fire service appliance dimensions.

Revision

Date

Description

Drawn

Appr.

S2-P07

17-10-2022

STAGE 03

JTO

RM

S2-P06

05-08-2022

STAGE 03

JTO

RM

S2-P05

19-07-2022

STAGE 03

JTO

RM

S2-P04

16-06-2022

STAGE 03

JTO

RM

S2-P03

10-05-2022

STAGE 03

JTO

RM

S2-P02

25-01-2022

STAGE 02

JTO

RM

Client

Bury Council

Project

Radcliffe Civic Hub

Drg Title

Landscape General Arrangement

Created on

04-01-2022

Created by

JTO

Approved by

RM

Scale

1:200

Size

A1

Workstage

Stage 03

Drg No.

RADHUB-PIE-00-00-DR-L-0001

Suitability

S2

Revision

P07

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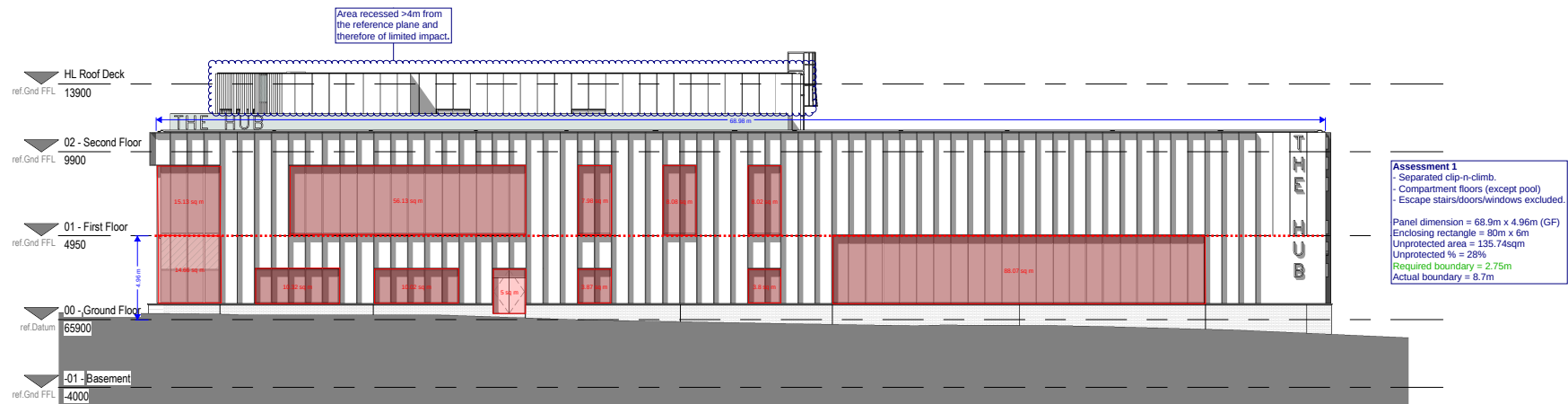
Tempest 5.3, 12 Tithebarn Street, Liverpool, L2 2DT

T: 0151 363 1230

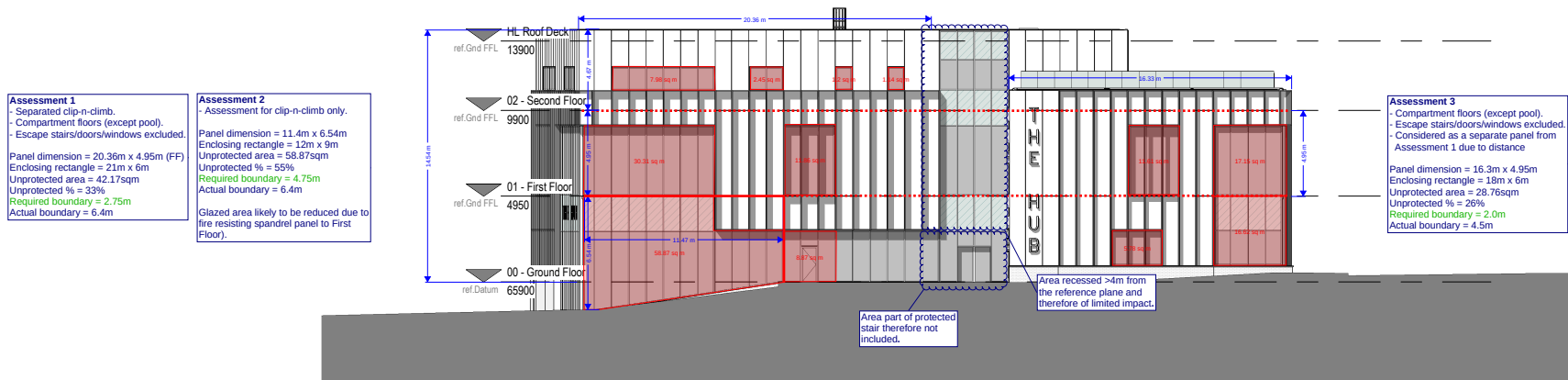
Viewpoint Status: S4

Viewpoint Status: S4

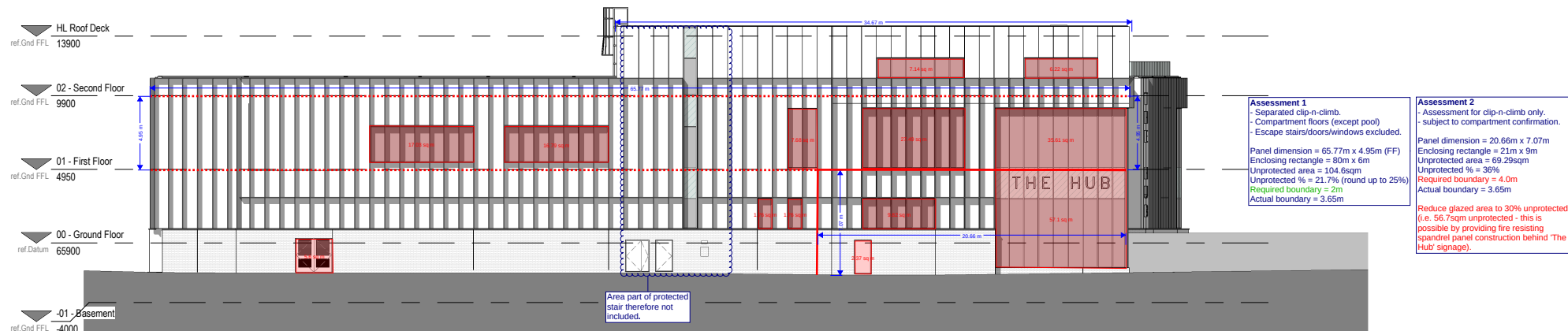
Appendix B – External Fire Spread Assessment



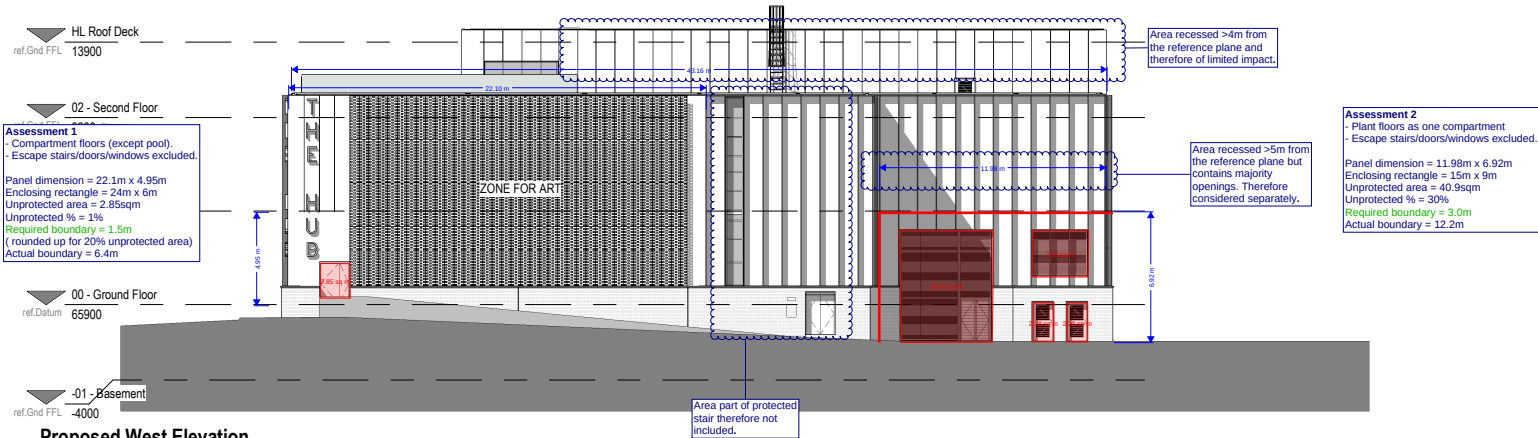
Proposed GA North Elevation



Proposed GA East Elevation



Proposed GA South Elevation



Proposed West Elevation

Notes
The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.
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Scale Bars		TO BE USED ONLY AS GUIDANCE			
1:100	mm	0	1000	2000	3000
1:200	mm	0	500	1000	1500
1:500	m	0	5	10	15
1:1250	m	0	5	10	15

P05	Updated following client comment. Area for local art influenced cladding indicated to West Elevation. Building lifted 600mm. Doors to lower ground repositioned.	DAS	23.12.22
P04	Stage 3 Issue.	JAW	13.10.22
P03	Elevations redesigned following consultation	RJF	05.10.22
P02	Updated to suit scheme revisions.	RJF	09.09.22
P01	Initial Issue	RJF	24.06.22
Rev	Description	By	Date

Client: VINCI Construction UK Ltd

Job: Radcliffe Hub

Drawing: GA Elevations

Ref: P5860 3000 Rev: P05

RadHUB-POZ-V4-ZZ-DR-A-3000

Date: 26/06/22 Scale: 1 : 200 @ A1

Design	DM	Tender	RJF	Approved	DAS
Design	DM	Contract	RJF	As Built	DAS



Project No: 0046

Project Name: Radcliffe Civic Hub

Sketch No: SK005.1

Sketch Title: Hub External Fire Spread

Date: 25 January 2023

Author: Craig Howard

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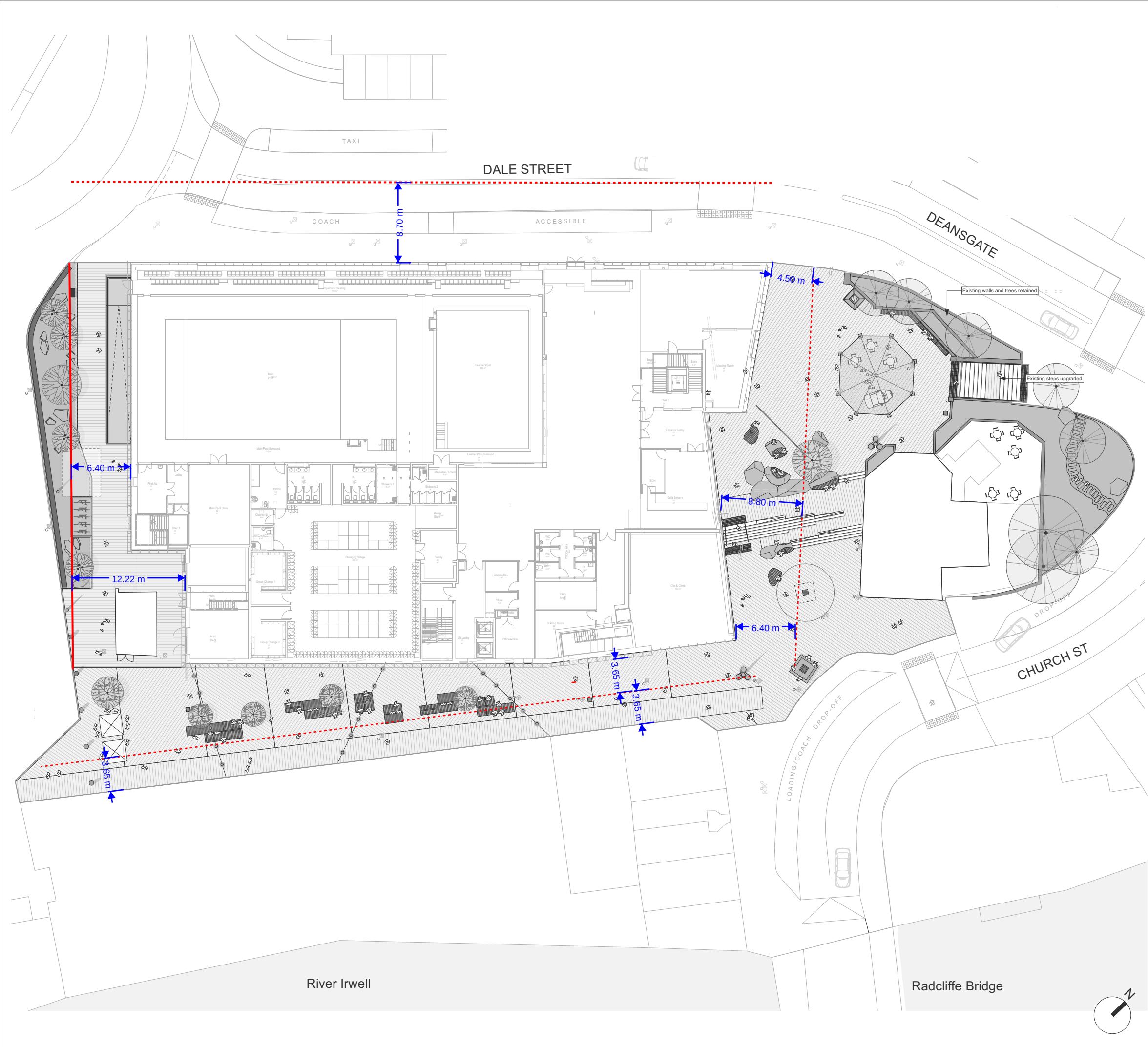
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2. Always work to noted dimensions.
3. All dimensions are in millimetres unless otherwise stated.
4. All setting out, levels and dimensions to be agreed on site.
5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.

S2-P07	17-10-2022	STAGE 03	JTO	RM
S2-P06	05-08-2022	STAGE 03	JTO	RM
S2-P05	19-07-2022	STAGE 03	JTO	RM
S2-P04	16-06-2022	STAGE 03	JTO	RM
S2-P03	10-05-2022	STAGE 03	JTO	RM
S2-P02	25-01-2022	STAGE 02	JTO	RM

Revision	Date	Description	Drawn	Apprvd.

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Client	Bury Council	
Project	Radcliffe Civic Hub	
Drg Title	Landscape General Arrangement	
Created on	Created by	Approved by
04-01-2022	JTO	RM
Scale	Size	Workstage
1:200	A1	Stage 03
Drg No.	Suitability	Revision
RADHUB-PIE-00-00-DR-L-0001	S2	P07

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Revision	Date	Issue
00	20 October 2022	Draft RIBA Stage 3 issue for design team review
01	25 January 2023	Amended to reflect RIBA Stage 3 updates
02	09 March 2023	Amended to correct Appendix B drawing

Produced on behalf of Bespoke Fire Safety Design by:

A handwritten signature in black ink, appearing to read "Craig Howard", is positioned above the contact information.

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