Fire Statement

Former Beales Hotel, Comet Way, Hatfield

24th May 2022

Hatfield Park Homes Ltd

BB-PFS-13348BC-01

Revision History

Version	Date	Author	Comments
-	12/04/2022	ZT	Initial issue
A	29/04/2022	ZT	Final issue
B	24/05/2022	ZT	Final issue with updated layouts

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Introduction

The Government made a commitment in 'A reformed building safety regulatory system: government response to the 'Building a Safer Future' consultation' to introduce Planning Gateway One, which has been effective since 1 August 2021 as part of the Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2021.

Planning Gateway One has two key elements:

- To require the developer to submit a fire statement setting out fire safety considerations specific to the development with a relevant application for planning permission for development which involves one or more "relevant buildings", and
- to establish the Health and Safety Executive as a statutory consultee for relevant planning applications.

In accordance with Clause 9A of with The Town and Country Planning (Development Management Procedure and Section 62A Applications) (England) (Amendment) Order 2021, "relevant buildings" are defined as buildings that:

- contain two or more dwellings or educational accommodation, and
- meet the height condition of 18m or more in height, or 7 or more storeys.

"Dwellings" includes flats, and "educational accommodation" means residential accommodation for the use of students boarding at a boarding school or in later stages of education.

Given the above requirements, the development is regarded as a relevant building and therefore a fire statement is required for Planning Gateway One.

This report constitutes the Planning Gateway One Fire Statement, which sets out the fire safety considerations specific to the development and will be submitted as part of the relevant application for planning permission. This report substantially follows the form template guidance as published by the Secretary of State and includes information about:

- the principles, concepts and approach relating to fire safety that have been applied to each building in the development;
- the site layout;
- emergency vehicle access and water supplies for firefighting purposes;
- what, if any, consultation has been undertaken on issues relating to the fire safety of the development; and what account has been taken of this;
- how any policies relating to fire safety in relevant local development documents have been taken into account.

Application Information

1. Site Address

Site address line 1	Former Beales Hotel
Site address line 2	Comet Way
Site address line 3	
Town	Hatfield
County	
Site postcode (optional)	AL10 9NG

2. Description of the Development

Application permission form description: Demolition of existing building and construction of x145 residential units (Use Class C3) with private and communal amenity space, landscaping, access, associated car and cycle parking, refuse and recycling storage and supporting infrastructure.

Former Beales Hotel development will involve the construction of new residential units served by four cores. Plant, Cycle Stores and 125 No. car parking will be provided at ground floor and the Commercial Sprinkler Tank Room will be housed in a small single level basement. The cores are labelled Core A, B C and D, respectively. Only Core A is proposed to serve the basement level. Core A has ground plus 4 storeys (i.e. 5 storeys) and the remaining cores will have ground plus 6 storeys (i.e. 7 storeys). A Communal Amenity roof terrace is provided accessed via Cores A and B only.

The residential unit mix will be 63 x 1-bed (43%); 52 x 2-bed (36%); and 30 x 3-bed (21%). 15 (10%) of these will be designed as wheelchair units.

3. Qualifications of the Author

Zaphiris Tsisios is a Senior Fire Engineer with a Master of Engineering (Honours) degree in Structural and Fire Safety Engineering from the University of Edinburgh and with more than 5 years of professional experience in fire strategy and fire engineering consulting. Zaphiris is also an Associate of the Institution of Fire Engineers (AIFireE).

Zaphiris' experience focuses on developing and delivering fire safety strategies for a variety of projects, including complex mixed-use schemes, high-rise residential, commercial offices, hotels, educational buildings and retail, predominantly across England and Wales. One of his main focus areas has been on the fire safety design of several residential buildings of varying heights (low-, mid- and high-rise of 50+ storeys), which incorporated other mixed-use elements, such as retail, office, hotel etc.

Zaphiris' experience in residential mixed-use developments has ranged throughout all RIBA Stages and he has also been involved in supporting several contractors in the delivery of the fire safety strategy via an ongoing review process of detailed aspects, such as cladding detailing, smoke control system validation through CFD, subcontractor proposals etc.

4. Consultation

No Building Control / Fire Service consultation has yet been undertaken on issues relating to the fire safety. Consultations with all relevant Authorities Having Jurisdiction (AHJs) will be undertaken at later stages as the design progresses.

5. Site Layout Plan & Elevation

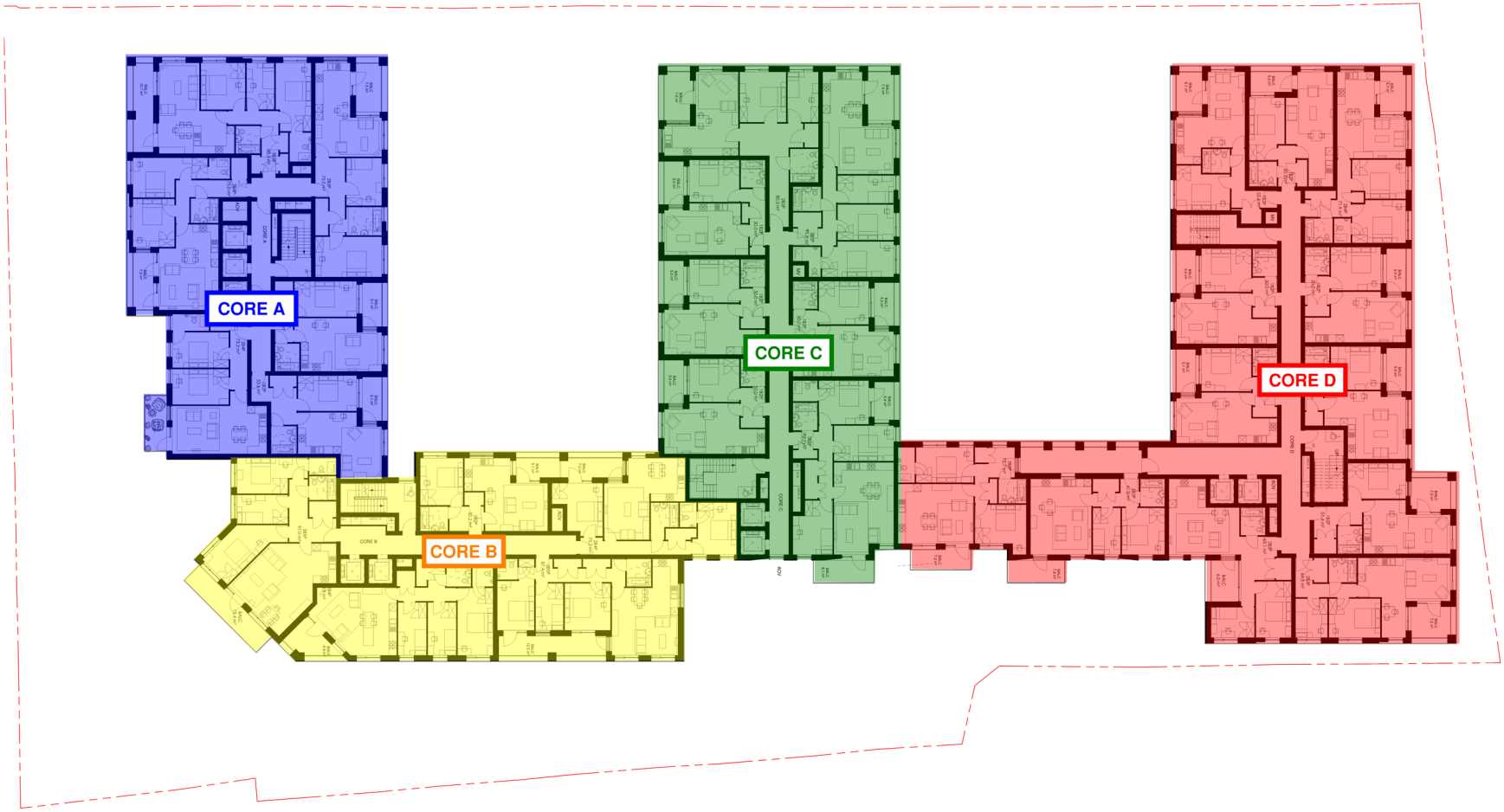

Figure 1. Site Layout Plan, showing extent of each block

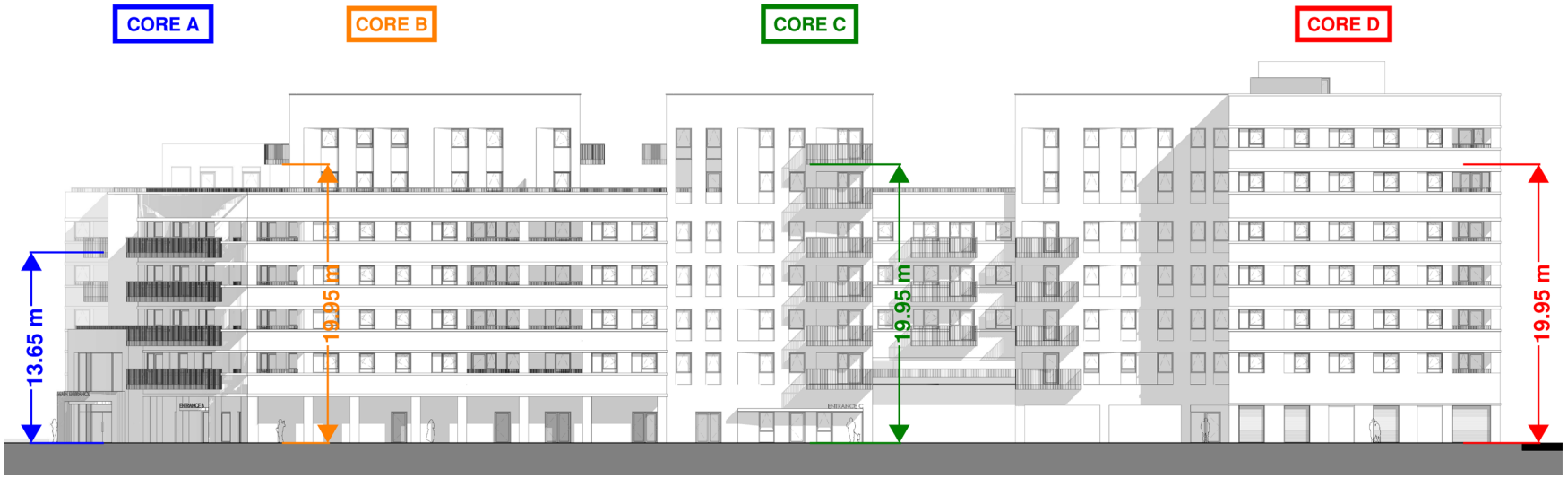

Figure 2. Site Elevation, showing height measurements for each block measured from entrance level to topmost occupied floor.

6. The principles, concepts and approach relating to fire safety that have been applied to the development.

Site information				Building information			Resident safety information		
a) Core no. as per site layout plan above	**b) block height (m), number of storeys excluding those below ground level, number of storeys including those below ground level**	**c) proposed use (one per line)**	**d) location of use within block by storey**	**e) standards relating to fire safety/ approach applied**	**f) balconies**	**g) external wall systems**	**h) approach to evacuation**	**i) automatic suppression**	**j) accessible housing provided**
Core A	Height: 13.65m 1 No. Basement Floor + Ground Floor + 4 No. Upper Floors	car parking	Basement to Ground Floor	BS9999	no balconies	class A2-s1, d0 or better	simultaneous	yes- commercial sprinklers, full	N/A non resi
Core A	Height: 13.65m 1 No. Basement Floor + Ground Floor + 4 No. Upper Floors	residential flats, maisonettes, studios	Ground to Fourth Floor	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes- residential sprinklers, full	M4(2) & M4(3)
Core B	Height: 19.95m Ground Floor + 6 No. Upper Floors	residential flats, maisonettes, studios	Ground to Sixth Floor	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes- residential sprinklers, full	M4(2) & M4(3)
Core C	Height: 19.95m Ground Floor + 6 No. Upper Floors	residential flats, maisonettes, studios	Ground to Sixth Floor	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes- residential sprinklers, full	M4(2) & M4(3)
Core D	Height: 19.95m Ground Floor + 6 No. Upper Floors	residential flats, maisonettes, studios	Ground to Sixth Floor	BS9991	class A2-s1, d0 or better	class A2-s1, d0 or better	stay put	yes- residential sprinklers, full	M4(2) & M4(3)

7. Specific technical complexities

Fire-fighting access

The development site is accessible by a public road only on one of its sides, therefore fire-fighting access to the development is provided via a private access road route leading to the car park entrance at ground floor level. Given the long length of this access road (i.e. >20m), vehicle turning facilities suitable for a fire appliance will be provided on the far end. A vehicle-track assessment has been carried out, which confirms that the fire tender appliance can navigate the proposed access route. This may be found in the Transport Assessment carried out by RPS Group.

Additionally, a private fire hydrant will need to be provided along this access route in order to reduce the separation of the dry fire rising mains from a fire hydrant to less than 90m.

Access to each of the cores is along the access road to the car park (Cores B, C & D) or the main street (Core A). Each dry riser inlet is within 18m of a parking position of a fire tender vehicle and the hose distances from a dry rising main outlet at the upper floors are no more than 45m in Core A or 60m in Cores B, C and D, in accordance with guidance recommendations.

External fire spread

Given the proximity of the car park external wall to the adjacent site boundary and the need to provide vents to achieve natural ventilation to the car park, it is proposed to set back the portions of the external wall that will house these car park vents and limit the area of the vents in this external wall, such that they comply with BR 187 guidance "*External fire spread - Building separation and boundary distances*." Detailed external fire spread assessment will be provided to the relevant authorities for approval in due course.

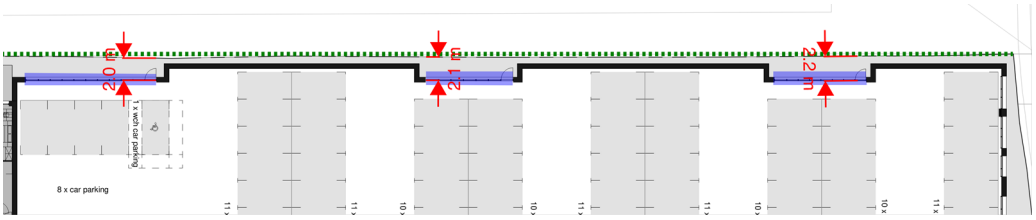

Figure 3. Car park setback vents along West external wall. Site boundary indicated in green dashed line.

Communal roof terrace

A communal terrace of approximately 550m^2 is provided at the roof of Core A block, as illustrated in Figure 4. The fire strategy design of this space will incorporate all recommendations within BS 9991: 2015 Annex D.4 guidance.

The communal roof terrace is served by both Cores A and B. Two independent exits from the terrace are provided into Core A, on opposing sides of the pop-up core, and one exit is provided into Core B, therefore, two exits may be reasonably assumed to remain available to accommodate the roof terrace occupancy, even when discounting one of the three exits to the effects of fire.

Based on guidance within BS 9999: 2017, storey exits of 1050mm clear width and assuming a risk profile of C2 (sleeping accommodation and medium fire growth rate – assumed to be worst case scenario since sleeping accommodation not envisaged on roof terrace), the maximum occupancy that may be accommodated on this level is evaluated as 512 occupants. This corresponds to approximately 1.1m^2/person, which is considered to be a very conservative occupancy estimate for this space.

Given that alternative escape routes are available from the communal roof terrace, guidance recommendations do not place any restrictions on the travel distances to reach an exit. Notwithstanding this, the maximum travel distance to the nearest exit is limited to c.15m, which is well below even the single direction travel distance of 45m (which is not applicable in this case since multiple exits are provided).

Additionally, fire alarm sounders and visual alarm devices, such as beacons, will be provided to the roof terrace areas. The sounders / beacons will raise an evacuation alert that is audible throughout the roof terrace upon activation of any fire detection system in the stairs or lobby / corridor access.

Lastly, an evacuation lift will be provided in Core A in order to assist in the dignified evacuation of any disabled occupants residing on the roof terrace. As a redundancy, the firefighting lift may also be used to evacuate disabled occupants from the roof terrace, prior to the arrival of the Fire Service.

Based on the above, the means of escape and warning provisions to the roof terrace are considered suitable and may accommodate the largest occupancy that may be reasonably anticipated in this space.

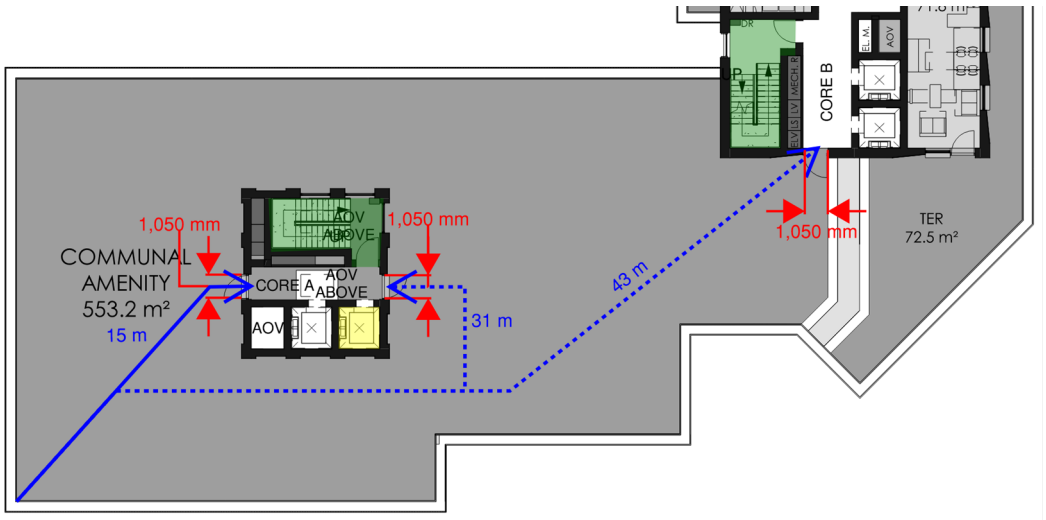

Figure 4. Communal roof terrace arrangement indicating stair cores in green, evacuation lift in yellow, travel distances in blue arrows and storey exit width measurements in red.

There are no other complexities identified at this stage of the design

8. Issues which might affect the fire safety of the development

The following are deviations from guidance and how this will be addressed:

- Where the residential units are proposed to be open plan apartments that exceed 8m x 4m (or 32m² in area), guidance recommends to have enclosed kitchens. However, it is proposed to not enclose the kitchens in solid construction, on the basis that sufficient space is allowed between the cooking hobs (main fire risk in apartment) and the escape route from the bedrooms. The allowed escape route will be at least 500mm wide and situated at least 1800mm away from the cooking hob. This proposal will form the basis of a qualitative case that will be developed and provided in the development's fire strategy once the internal apartment arrangements are further developed.
- The travel distances in some of the common corridors are exceeding the permitted single direction travel distance of 15m from the dwelling entrance to the entrance of the

protected stairway. To justify any such extended travel distances, a mechanical smoke ventilation system will be provided to the corridors that will be designed to maintain the stair free of smoke at all times and return the corridor to tenable conditions once the fire-apartment occupants evacuate. The performance of any such systems will be analysed and demonstrated via a Computational Fluid Dynamics (CFD) analysis in due course.

9. Local development document policies relating to fire safety

There are no local development document policies relating to fire safety. Only compliance with the Building Regulations has been taken into account.

Emergency road vehicle access and water supplies for firefighting purposes

10. Fire Service site plan details

Access to the site for firefighting is to be in accordance with guidance in BS 9991:2015 (Residential) and BS 9999:2017 (non-residential). This can be seen in Figure 5. The fire appliance will have access to the site from Comet Way (A1001).

The following layout is summarised: -

- As the height of Cores B, C and D exceed 18m each stair core will form part of a firefighting shaft with firefighting lift.
- There will be a dry riser inlet and outlets provided at each floor for Cores A-D.
- The hose laying distance from any dry riser outlet on the upper floors will not exceed 45m in Core A or 60m in Cores B, C and D.

11. Emergency road vehicle access

A new access route will be provided to within the development. The new access route will be from Comet Way (A1001) and be directed towards the car park at ground floor. The route will be dimensioned in accordance with BS 9991: 2015 guidance to provide sufficient access for the fire and rescue service vehicles. These provisions are illustrated on the Fire Service site plan provided in Section 14.

Is the emergency vehicle tracking route within the site to the siting points for appliances clear and unobstructed?

- yes

12. Siting of fire appliances

The distance from the parking position of a fire tender vehicle to a dry riser inlet will not exceed 18m. The distance from the parking position of a fire tender vehicle and any ground floor dwelling will not exceed 90m as per the recommendations of BS 9991.

13. Suitability of water supply for the scale of development proposed

Nature of water supply:

- hydrant- private

Water supplies for firefighting purposes will be provided by either local fire hydrants or/and private hydrants, provided such that they will be within 90m to all dry riser inlets to all buildings in the development. Location of hydrants have not yet been finalised at this stage of the design.

Does the proposed development rely on existing hydrants and if so are they currently usable / operable?

- don't know

14. Fire Service site plan

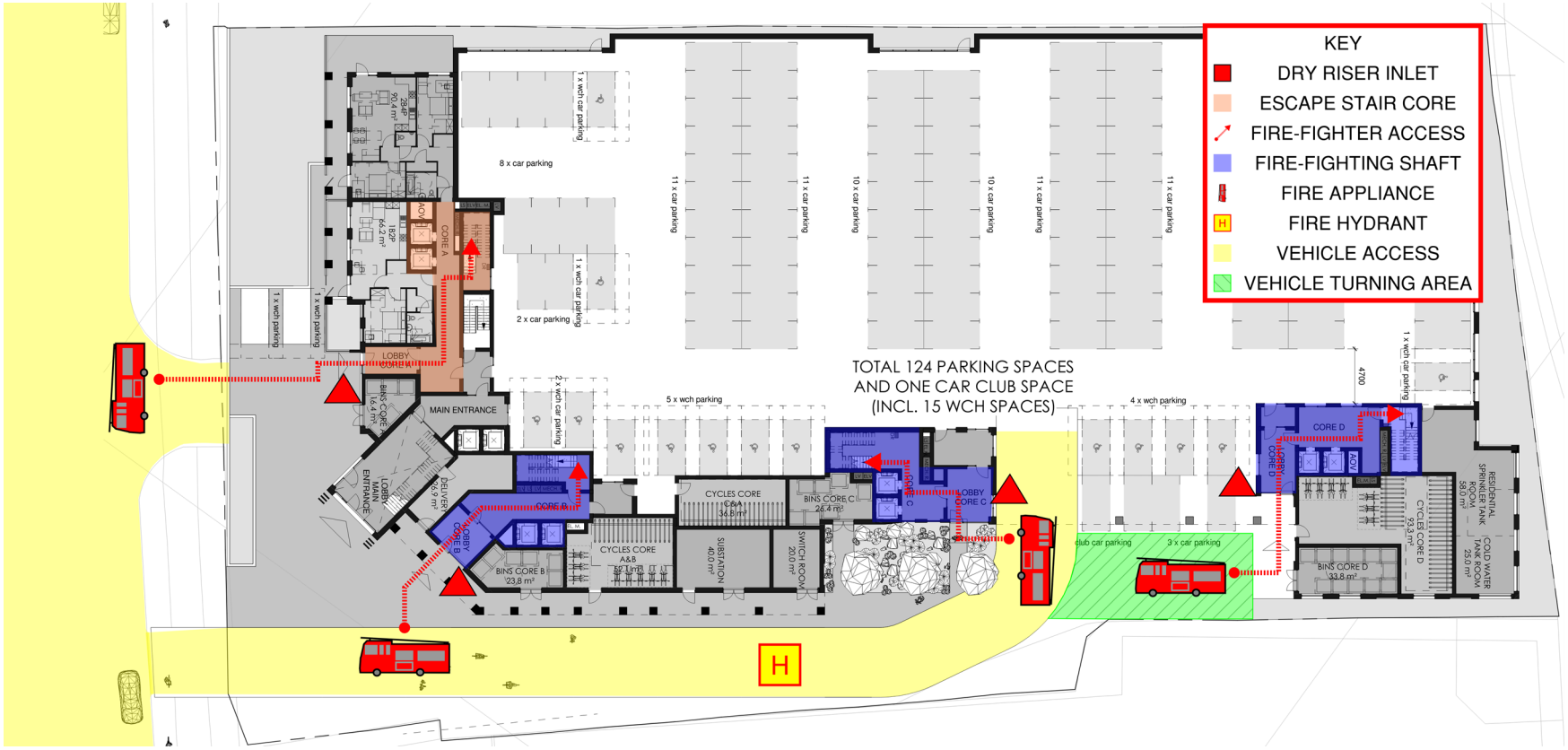

Figure 5. Fire Service site plan.

Fire statement completed by	
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Position	Senior Fire Engineer
Signature	[redacted]
Date	24/05/2022

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NORTHERN IRELAND

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