FIRE ENGINEERING

GATEWAY 1 - PLANNING FIRE STATEMENT (INCORPORATING LONDON PLAN REQUIREMENTS)

300 GRAY'S INN ROAD, LONDON WC1X 8DX

Ref – F11616

Version – 04
Status – Issue

Date: 23 05 2023

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Application information	
1. Site address line 1	300 Gray's Inn Road
Site address line 2	
Site address line 3	
Town	London
County	
Site postcode (optional)	WC1X 8DX
2. Description of proposed development including any change of use (as stated on the application form):	Refurbishment and extension of an existing building in order to create a single part-10, part-5 storey building (excluding basements), to provide residential flats (Class C3) and commercial, business and service use (Class E) including external alternations for new facades to all elevations, the introduction of terraces, reconfiguration of entrances and seriving arrangements, new hard and soft landscaping, provision of cycle parking and other ancillary works. The proposed building will include a total of 12 storeys (B, G + 9), with the office areas spanning all storeys. The residential areas of the block will extend from basement to the 4th floor, with ancillary areas provided at basement level and ground, and flats provided on above ground levels. The office areas will be served by all stairs on all floors (including basement). The residential areas of the block will be served by a single stair. The approximate height of the topmost occupied storey (9th floor) will be approximately 31.3m. The approximate height of the topmost residential floor (4th floor) will be approximately 14.0m. The proposed building will be located on a constrained urban site, bound by Acton Street to the north, Gray's Inn Road to the west, and existing, adjoining buildings to the east and south. The two building areas (office and residential) are intended to be developed as separated parts on all above ground storeys with the separation provided by a continuous vertical compartment wall. Ground and basement levels will include some shared parts.
3. Name of person completing the fire statement (as section 15.), relevant qualifications and experience.	Marios Alexandrou – MEng (Hons), MSc, CEng, MIFireE, IStructE Principal Fire Engineer – Clarke Banks (Fire Engineering) Limited Master's Degree (Honours) in Civil and Structural Engineering from the University of Sheffield (UK) – 1st Class - MEng (Hons) – 2014 Master's Degree in Fire & Explosion Engineering from the University of Leeds (UK) – Distinction - MSc – 2018 Chartered Engineer registered with the Engineering Council – CEng - 2021 Full Member of the Institution of Fire Engineers – (MIFireE) - 2021

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	Graduate Member of the Institution of Structural Engineers – (IStructE) - 2015 My career in fire engineering started in September 2014 when I joined a specialist fire consultancy. During the first 5 years of my career, I worked on multiple projects (mainly UK based) of various scales and types and on different design or construction stages. My technical involvement in these projects included the delivery of fire strategy reports, CFD and / or FEA analyses, Field of Application reports for various fire resisting products or systems and other technical reports and assessments. In 2019, I joined a multi-disciplinary and multi-national company where I broadened my project type experience both in terms of project nature and size as well as project location. I worked on prestigious and iconic projects around the world including mega and giga masterplans. I collaborated with multi-national design teams including multiple disciplines. I have been involved at all levels of project delivery including the consultation stages and consulted with local statutory bodies in and out of the UK. I also participated in the development of UK standards / codes of practice and guidance documents as a member of a specialist BSI committee and a member of an SCA (Smoke Control Association) working group.
4. State 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.	No formal consultation has been undertaken up to this point with any statutory body such as the local fire service or the building safety regulator / local authority, apart from described below.

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5. Site layout plan with block numbering as per building schedule referred to in Section 6.
(Consistent with other plans drawings and information submitted in connection with the application)

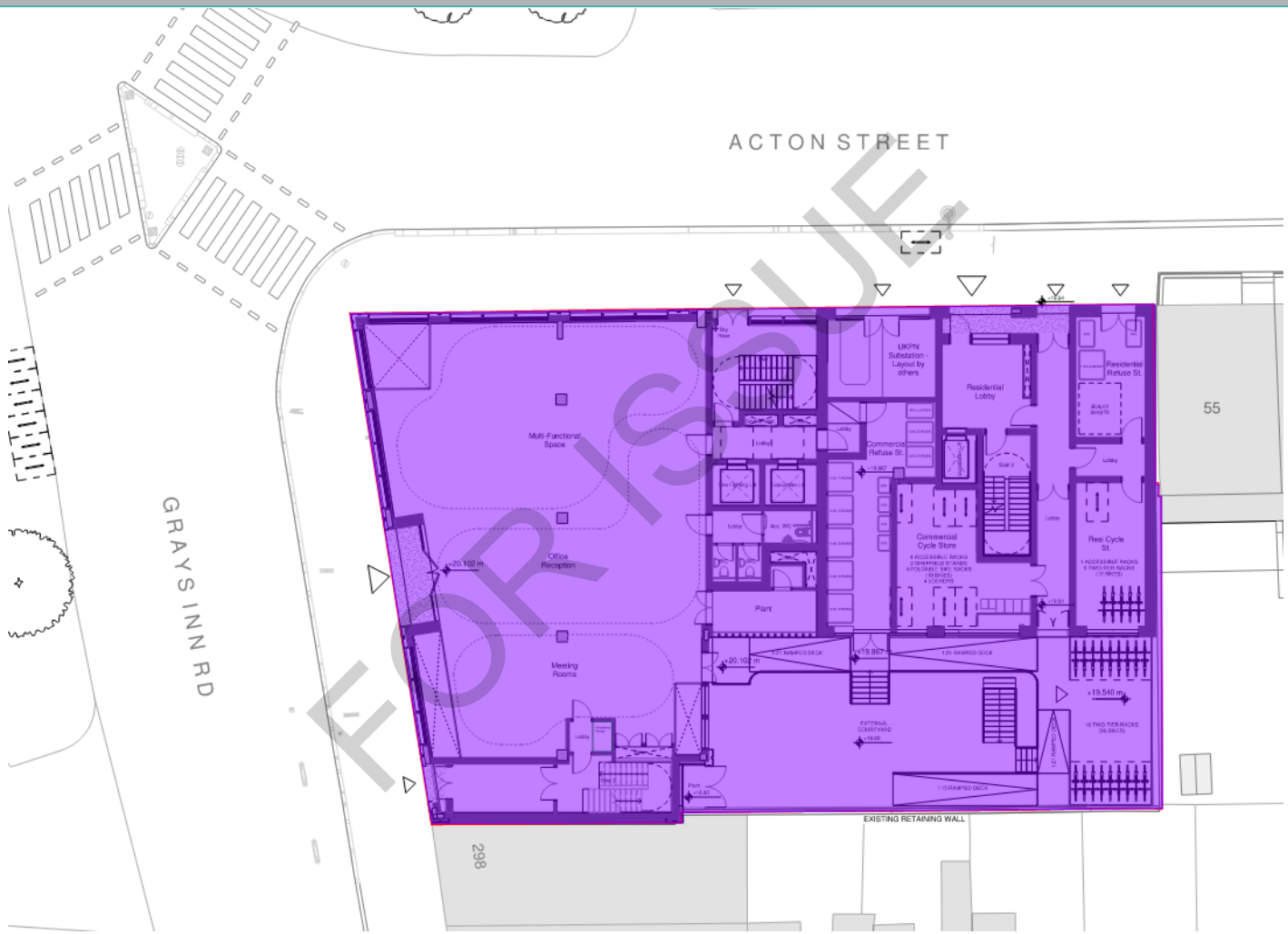

Figure 1: Site Location Plan

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The principles, concepts and approach relating to fire safety that have been applied to the development									
6. Building schedule									
Site information				Building information			Resident safety information		
a) block no. as per site layout plan above	b) • block height (m) • number of storeys excluding basements • number of storeys including basements	c) proposed use (one per line)	d) location of use within block by floor level	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
300 Gray's Inn Road	• 35.4 m (to parapet level); • 31.3m (to topmost storey finished floor level – 9F); • 11 storeys (B, G + 9)	service area (plant rooms, water tank room, bin stores, cycle stores, sprinkler plant room)	B - G	BS9991	no balconies	Class A2-s1, d0 or better	simultaneous	yes- other (BS 9251 / BS EN 12845 or BS 8489-1 (watermist) where outside the scope of BS 9251)	N/A non resi
		office, research and development (offices)	B – 9F	BS9999	balconies- Class A2-s1, d0 or better	Class A2-s1, d0 or better	simultaneous	yes- other (BS EN 12845 or BS 8489-1 mist)	N/A non resi
		residential flats, maisonettes, studios (flats)	1F-4F	BS9991	balconies- Class A2-s1, d0 or better	Class A2-s1, d0 or better	stay put	yes- residential sprinklers, full (BS 9251)	M4(2) & M4(3) M4(2) – 85.7% M4(3) – 14.3%

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		flexible use (roof plant)	R	BS9999	no balconies	Class A2-s1, d0 or better	simultaneous	none (N/A - external areas)	N/A non resi

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7. Explain any specific technical complexities in terms of fire safety (for example green walls) and / or departures from information in building schedule above

a) The design of the residential areas will be based on the guidance presented in BS9991:2015 in consideration of the upcoming changes in BS9991:2021 DRAFT. The design is intended to support the stay-put strategy (unless not safe to do so) commonly employed for residential flats, with the caveat that residents will also be expected to be able to evacuate should they wish to do so. The residential ancillary areas (stores, plant rooms) will include a simultaneous evacuation strategy.

b) The design of the office premises (both open-plan areas and associated ancillary accommodation) will be based on the guidance presented in BS9999:2017. The design will be intended to support simultaneous evacuation strategies.

c) The building includes a height in excess of 18m, and residential accommodation. When considering the June 2022 amendments to Approved Document B (applicable to residential buildings with a height above 11m) and the requirements of Regulation 7, it is expected that the external walls of the building will comply with Regulation 7(2) throughout. As such, the external wall construction as well as specified attachments (i.e., including balconies) should only include materials achieving a reaction to fire classification of Class A2-s1, d0 or better in accordance with BS EN 13501. Permitted exceptions will apply as per Regulation 7(3).

d) All balustrades and parapets shall be classed as forming part of the external wall, with both being subject to the requirements of Regulation 7(2).

e) The external fire spread requirements will be based on the calculation methodology described in BRE report 187. Any external wall areas located within 1m or less from the relevant boundaries will be fully fire-rated, with minor allowable exceptions for small openings.

f) The building will include photo-voltaic panels, along with external terraces. The designs will ensure compliance with minimum requirements under Part B4, Schedule 1, of The Building Regulations 2010. It is expected that the photo-voltaic panels will also achieve a reaction to fire performance of at least Class B, in keeping with the adjoining roof areas (Class B_{ROOF}(t4)). Photo-voltaic panels shall not be installed on any external walls. If any green roof areas are provided, the design of the green roof build-ups should comply with the requirements in contemporary green roof guidance, as well as general roof covering guidance as per BS9991 and BS9999.

g) Sprinkler coverage will be provided as follows:

   i. All office areas are proposed to be covered by a BS8489-1:2016 industrial and commercial watermist system or BS EN 12845 automatic sprinkler system;

   ii. All residential areas are to be covered by a BS 9251:2021 residential sprinkler system, designed to Category 2, with enhancements where coverage is provided to ancillary areas (as per the detailed guidance of BS 9251); and

   iii. The system proposals are subject to design development, coordination with specialist system designers and consulation with Authorities Having Jurisdiction (AHJs).

h) The design philosophy for the residential areas (flats) will include a single stair core.

i) The residential common corridors will be smoke ventilated by a mechanical smoke control system. The smoke ventilation strategy will be in line with the recommendations of BS 9991 and the performance of the proposed mechanical smoke ventilation systems will be assessed through Computational Fluid Dynamics (CFD) studies against acceptance criteria recommended in contemporary guidance.

j) Ancillary and amenity areas to the flats will be adequately separated from the residential escape routes through protected and smoke ventilated lobbies and in line with contemporary guidance. Where mechanical smoke ventilation systems are proposed, these will be assessed through Computational Fluid Dynamics (CFD) studies against acceptance criteria recommended in contemporary guidance.

k) Exit widths will be designed to accommodate the expected population and will consider the worst case scenarios and possible merging flows.

l) The office areas on 1F and 2F will be provided by two dedicated stairs, with one designed as a firefighting stair, and the other designed as a lobby-protected stair.

m) With the exception of the basement areas, where ancillary accommodation access appears to be shared between the premises, the residential and office areas of the building will be provided with fully separated Means of Escape.

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8. Explain how any issues which might affect the fire safety of the development have been addressed

Fire detection and alarm systems:

a) The proposed use of the eastern half of the floorplate (above ground floor) is exclusively residential, including residential flats. The residential areas will employ a stay-put evacuation strategy (unless not safe to do so), whereby only the flat of fire origin will be prompted to evacuate in the event of a fire. Nevertheless, occupants within other flats are expected to be able to evacuate, should they opt to do so. The individual flats will be covered by Grade D1 Category LD1 detection and alarm systems, designed to BS5839-6;

b) The building will include a number of residential ancillary areas at basement and ground (bike stores, refuse stores, plantrooms), which will employ a simultaneous evacuation strategy. These areas will be prompted to evacuate immediately in the event of detection within the area or its associated escape routes. The common residential areas (stairs and common corridors), as well as the aforementioned ancillary areas, will be covered by a BS5839-1 detection and alarm system, with level of coverage consistent with a Category L1 system. The system will also be provided with smoke detectors within the protected stair lobbies and the stair cores, in support of the lobby ventilation and stair ventilation systems;

c) The entirety of the office area will employ a simultaneous evacuation strategy. These areas will be provided with a standalone commercial grade fire detection and alarm system designed to BS5839-1. The system category shall be reviewed further at fit-out stage, although it is expected this will need to achieve Category L2 as an absolute minimum.

Smoke ventilation for common parts of the buildings:

a) The common lobbies for the residential stair core will be mechanically ventilated via a mechanical extract shaft;

b) The residential stair core (Stair 3, see Figure 2 of this statement) will be provided with a direct discharge route to outside at ground level. The discharge route will be protected and separated from any ancillary rooms by protected and smoke ventilated lobbies as per BS9991;

c) It is recommended that the residential stair core achieves a clear width of at least 1.1m;

d) The proposed labelling convention for the stairs is presented in Figure 2 of this statement. Based on building heights and sizes, Stair 1 will be classified as a commercial firefighting shaft, with a secondary escape stair (Stair 2) also providing egress from the office areas. Stair 3 (residential stair) will be designed as a protected shaft; and

e) The basement areas of the block should be provided with either natural or mechanical smoke clearance (supported by a suitable level of automatic fire suppression coverage).

Automatic suppression:

a) Due to the building height (>11m above adjoining ground for the residential areas, >30m for the office areas) the block should be provided throughout with automatic fire suppression;

b) All office areas are proposed to be covered by a BS8489-1:2016 industrial and commercial watermist system or BS EN 12845 automatic sprinkler system; and

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c) All residential areas areas are to be covered by a BS 9251:2021 residential sprinkler system designed to Category 2, or Category 3 where enhanced protection is required. Ancillary areas are expected to also be covered off this system, provided that these areas meet the size limitations shown in Table 4 of BS9251:2021 and the system includes the enhancements discussed in Section 5.6 of BS9251:2021.

Compartmentation:

a) Based on the building topmost storey heights specified in Section 6 of this statement, the structural fire resistance for the building should be 120 minutes throughout, unless the two areas are structurally independent;
b) All floors in both areas are to be designed as compartment floors. The rating of the compartment floors will be 120-minutes for office areas and 60-minutes for residential areas (120-minutes for compartment floors between office and residential);
c) The two parts of the building should be separated by a 120-minute fire-resisting construction above ground floor;
d) Walls separating flats from other flats will be 60 minutes fire resisting. Walls separating flats from common corridors will be 60-minute fire-rated and will include FD30S doors;
e) Walls enclosing residential ancillary areas on the different levels of each block should achieve a resistance of at least 120-minutes;
f) Walls enclosing the firefighting stair (Stair 1) and the associated firefighting and evacuation lifts will be a minimum of 120 minutes fire resisting, with FD60S and FD60 fire doors, respectively;
g) Stair 2 will be designed as a protected shaft, with 120-minute fire-resisting walls and FD60S doors;
h) Stair 3 will be designed as a protected shaft, with 60-minute fire-resisting walls and FD30S doors;
i) Walls surrounding service risers will be a minimum of 120 minutes fire resisting, with FD60S fire doors, for the office areas;
j) Walls surrounding service risers will be a minimum of 60 minutes fire resisting, with FD30S fire doors, for the residential areas;
k) Walls enclosing smoke shafts will achieve a rating equivalent to the rating of the compartment floor the shaft passes through (120-minutes for office areas and 60-minutes for residential areas). Doors / vents fitted in those walls will achieve the same rating as the wall, and will be rated for cold smoke leakage;
l) Walls surrounding the evacuation lift shaft for the residential areas will be a minimum of 60 minutes fire resisting with FD30 fire doors;
m) Dampers on ductwork passing through compartments or fire-resisting lines will meet the resistance of the elements that they pass through;
n) Dampers passing through compartment walls or floors, or through protected escape routes (internal corridors, lobbies, stairs, cluster corridors) will need to be designed as ES (fire and smoke) dampers linked to the automatic detection and alarm system. Only fire resisting ductwork is permitted where ventilation ducts pass through stairs;
o) Where fire breaks or fire stops are used, they will meet the resistance of the elements they sit within or exceed them;
p) Penetrations through compartment walls or floors (such as open risers) will meet the resistance of the elements they penetrate or exceed them; and
q) All cavity barriers will be required to achieve a rating of at least 30 minutes (integrity E30) and 15 minutes (insulation I15).

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9. Explain how any policies relating to fire safety in relevant local development documents have been taken into account

LONDON PLAN POLICY D5(B5) – EVACUATION LIFTS

Requirement

The policy states that proposals should "…be designed to incorporate safe and dignified emergency evacuation for all building users. In all developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity assessments) should be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building".

Proposal

It is proposed that two evacuation lifts will be incorporated as part of the development (see Figure 2). An evacuation lift is proposed to be provided in association with the single residential stair core (Stair 3). One evacuation lift will also serve the office areas, provided in association with Stair 1. Stair 2 (the second stair serving the office areas) will be provided with a disabled refuge point, as this core is not associated with any lifts.

Evacuation lifts shall be designed in line with the guidance presented in BS EN 81-20, BS EN 81-70 and BS EN 81-76, as well as Annex G of BS 9999 and BS9991:2021(DRAFT).

Evacuation lifts will operate on a fire mode in a fire event and will return to the discharge level and remain open. The building management staff will be able to override the fire mode of any evacuation lift and use it to assist wheelchair users requesting evacuation lift access. Each evacuation lift should be provided in conjunction with a disabled refuge point, fitted with Emergency Voice Communication (EVC) equipment (BS 5839-9). This would allow a communication link between the wheelchair users and the management staff (either site based or remote).

All refuge points have been proposed within protected and smoke ventilated lobbies or within the stair enclosure close / adjacent to an evacuation lift. The management plan, and the level of reliance of the evacuation lift operation on management staff input, should be reviewed against the proposed staffing levels for the scheme.

LONDON PLAN POLICY D12(B) – FIRE STATEMENTS

Requirement

The policy states that: "All major development proposals should be submitted with a Fire Statement, which is an independent fire strategy, produced by a third party, suitably qualified assessor.

The statement should detail how the development proposal will function in terms of:

1) the building's construction: methods, products and materials used, including manufacturers' details.
2) the Means of Escape for all building users: suitably designed stair cores, escape for building users who are disabled or require level access, and associated evacuation strategy approach.

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3) features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.
4) access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these.
5) how provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.
6) ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety / protection measures."

Proposal

1) The construction methods and product limitations will be driven by the primary uses of the building, which provides both office and residential accommodation. The building structure is expected to be mainly formed by either reinforced concrete, steel frame construction, or a combination of both. The building is understood to also include cross-laminated timber structural frames on the upper floors, with any such areas required to achieve the structural and compartmentation ratings previously discussed as part of this statement. The external wall construction will comply with the Regulation 7 requirements throughout i.e. external walls and specified attachments will achieve a reaction to fire classification of Class A2-s1, d0 or better.
2) The Means of Escape provisions are outlined below and summarised in of this statement:
    a. Residential areas:
        i. The internal layouts for the different residential units will either comply with Clause 9.4.2b) for flats with protected entrance halls or Clause 9.7 for open plan flats;
        ii. The internal common corridors serving the residential units will be designed in line with the guidance presented in Figure 6b) of BS9991:2015. Travel distances will comply with Figure 6b) of BS9991:2015;
        iii. The stair and lift will be protected by mechanically smoke ventilated lobbies. The performance of these systems will be substantiated by Computational Fluid Dynamics (CFD) analyses; and
        iv. Users with mobility issues will be provided with egress via the aforementioned evacuation lift.
    b. Office areas:
        i. Occupants at ground floor will be provided with direct escape to outside, and alternative escape via the base of stairs 1 and 2;
        ii. Occupants on all other levels will be provided with escape via the two stair cores (stairs 1 and 2). These exits will be adequately sized to support a simultaneous evacuation strategy;
        iii. The detailed occupancies within the office areas shall be confirmed as detailed design progresses, although maximum occupancies of circa 60 per storey are expected to be acceptable based on two storey exits;
        iv. Alternative escape from the basement ancillary areas will be provided via an external stair leading to outside at ground; and
        v. Users who are disabled or require level access will be provided with egress via the aforementioned evacuation lift (associated with stair 1). A disabled refuge point shall be provided in conjunction with stair 2 (within the stair lobby), given that this stair is not associated with a lift core. The ground floor level is expected to be fully accessible.

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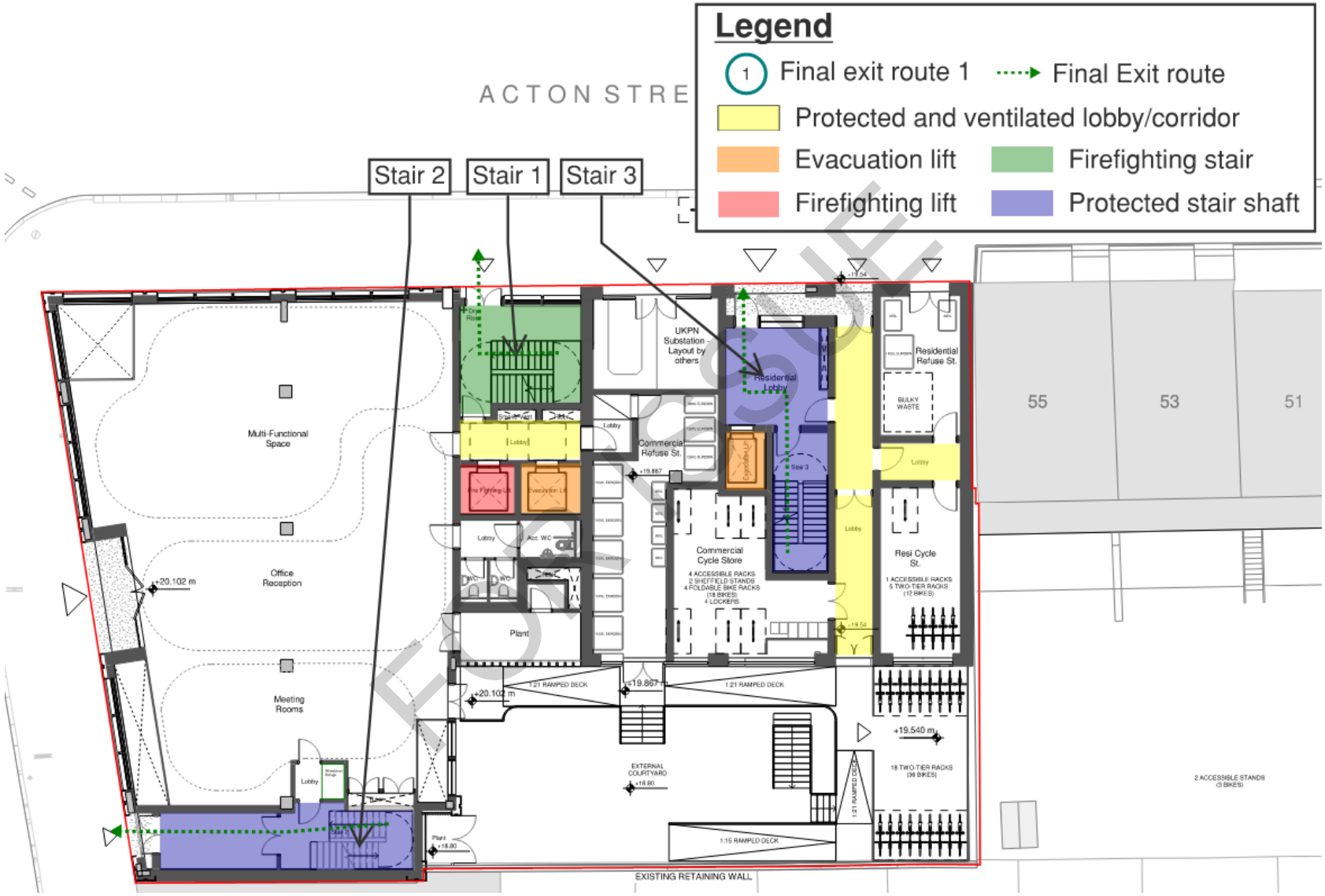

Figure 2: Summary of Means of Escape provisions (Ground Floor Plan)

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3) The features which reduce the risk to life are outlined below:
   a. Fire detection and alarm systems: Standalone residential detection and alarm systems (BS5839-6, Grade D1 Category LD1) for the flats and Category L1 detection and alarm systems (BS5839-1) for the common residential areas of the blocks. A standalone system (BS 5839-1) will be provided to the office areas (Category L2 expected at fit-out stage). The disabled refuge points associated with the evacuation lifts will be provided with Emergency Voice Communication (EVC) systems (BS5839-9).
   b. Passive fire safety measures: The compartmentation strategy will be developed to BS9991 (for the residential areas, including residential ancillary accommodation) and to BS9999 for the office areas. The compartmentation strategies will be commensurate with the proposed evacuation strategies, scale and expected use for the scheme. Openings within passive fire compartmentation elements will be fitted with suitably rated doors, fire dampers, or active fire barriers.
   c. Active fire safety measures: All residential areas will be covered off a BS9251:2021 suppression system. At this stage, all office areas are expected to be covered by a BS8489-1 industrial and commercial watermist system. The stair core lobbies for Stairs 1 and 3 (office firefighting stair and residential stair) will be provided with mechanical ventilation (using mechanical smoke shafts, to be supported by CFD). Stairs 1 and 3 will be provided with 1m^2 Automatic Opening Vents (AOVs), sited at high level above the stair core. The firefighting lift (associated with Stair 1) will be designed based on BS EN 81-72. The two evacuation lifts (one for the office areas, one for the residential areas) will be designed based on BS EN 81-20, BS EN 81-70 and Annex G of BS9999 and BS9991:2021(DRAFT). The dry rising mains (Stair 1 lobbies and Stair 3) and associated equipment should be designed based on the guidance of BS9990. Basement smoke ventilation (either natural or mechanical) systems should be provided in line with the relevant parts of BS EN 13501.
   d. Maintenance and monitoring: All of the aforementioned systems are expected to be regularly monitored and maintained in line with manufacturer's requirements and the relevant design guidance / British Standard. The maintenance and monitoring operations for all such systems must be adequately recorded.
4) The access for fire service personnel and equipment are discussed in detail in Sections 10-14 of this statement (below).
5) The access for fire service vehicles is discussed in detail in Sections 10-14 of this statement (below).
6) Ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety / protection measures:
   a. The continuity and development of the Golden Thread is the responsibility of the whole design team with the Duty holder taking the lead. Clarke Banks (Fire Engineering) will continue to ensure the Golden Thread of information is kept in line with direction and leadership coming from the Duty holder. Clarke Banks (Fire Engineering) aim to support the appointed Duty holder in collating the Golden Thread of building information, insofar as applicable and relevant to the strategic fire safety design requirements.
   b. The design team are committed to incorporating all information that this statement has discussed, including any further developments which may arise as the design progresses, into the main fire strategy. This information shall be made available to any building owner throughout the life span of the building. This will culminate in a package of information being handed over to the building owner as per Regulation 38 of The Building Regulations 2010.
   c. This will ensure that the information to understand the building, including any steps needed to keep both the building and people safe throughout its lifespan are readily available.

Emergency road vehicle access and water supplies for firefighting purposes

10. Explanation of fire service site plan(s) provided in 14, including what guidance documents have informed the proposed arrangements for fire service access and facilities?

a) The Fire Service access provisions are based on the requirements listed in BS9991 and BS9999;
b) The proposed site is adjoined by Acton Street and Gray's Inn Road;

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c) Stair 1 (office areas) will be designed as a commercial type firefighting shaft, including a firefighting stair, a dry riser within the firefighting lobbies, along with a firefighting lift (which will open into ventilated stair / lift lobby). Access above and below ground for the office areas will also be available via stair 2;
d) Stair 3 (residential core) will be designed as a protected shaft, including a dry rising main, associated with ventilated lobbies on all floors;
e) Stairs 1 and 3 will also be associated with evacuation lifts;
f) Access to the above and below ground floors of the office areas will be provided via stair 1, with secondary access provided via stair 2 (as shown in Figure 2 of this statement);
g) Stairs 1 and 3 will each be provided with a dry riser designed in line with BS9990. These mains will include outlets on every full landing (within the lobbies for stair 1, within the stair enclosure for stair 3);
h) For all the aforementioned cores, the fire mains will include an inlet valve on the façade of the building adjoining the stair access point, within 18m from, and a clear line of sight to, the Fire Service vehicle parking location (shown as a red dot, as per Figure 3 of this statement);
i) All residential areas will be accessible within 45m along a route suitable for laying hose as measured from a dry riser outlet in stair 3;
j) All office areas will be accessible within 45m from an outlet in stair 1;
k) At ground floor, all residential ancillary areas are expected to be provided with coverage within 45m along a route suitable for laying a hose as measured from the vehicle parking locations. These areas will include firefighting access directly from outside;
l) Special signage will be provided to all of the residential stair core (Stair 3) to enable the Fire Service to conduct operations effectively. Wayfinding signage in accordance with the amended Approved Document B (ADB) Volumes 1 & 2:2020 will be provided in support of firefighting operations.

11. Emergency road vehicle access - can emergency road vehicles access the site entrances indicated on the site plan?

- Yes. Due care will be given to ensure that the vehicle access route (shown indicatively in Figure 3 of this report) achieves the requirements for a pump appliance as shown in Guidance Note 29 (London Fire Brigade). This should be confirmed by carrying out a tracking assessment and supported with detailed drawings at a later date. Any access / security measures in and around the site (especially any barriers or bollards preventing vehicle access) will need to be by-passable by the Fire Service.

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

- Yes

12. Siting of fire appliances

a) Fire Service vehicle access will be provided via Acton Street and Gray's Inn Road, which are both existing public roads. This arrangement is shown indicatively in Figure 3 of this report;
b) This will allow fire appliances to park within 18m from, and have a clear line of sight to, the fire main inlet points for Stairs 1 and 3 (shown indicatively as red dots in Figure 3 of this report). Immediate access into the stair lobbies or stairs will be provided next to the fire main points for stairs 1and 3 as well as externally for stair 2 (secondary office core) (shown as red arrows in Figure 3 of this report);
c) This will also allow fire appliances to park within 45m along a route suitable for laying hose from all areas within residential ancillary rooms at ground floor, and will support the external firefighting proposals for these areas;
d) The vehicle access route suitability for Fire Service appliances (on the aforementioned public roads) should be confirmed via tracking exercises at a later date, however both Acton Street and Gray's Inn Road are public roads and therefore expected to be suitable for Fire Service vehicles.

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

a) Public hydrants (existing) should be provided within 100m of rising main inlet points for all cores. Based on street view imagery, an existing hydrant appears to be provided on the junction of Acton Street and Gray's Inn Road, with the hydrant location shown indicatively in Figure 3 of this statement. This hydrant should be confirmed as functional with the relevant fire authority.

b) The hydrant is expected to be located within approximately 20m from the fire main inlet points (Stairs 1 and 3). This should be confirmed by site measurements.

Nature of water supply:

- Hydrant – public

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

- Don't know – a hydrant is present in proximity. Viability to be confirmed with the local authority.

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14. Fire service site plan

Fire service site plan is: inserted in the form – see below.

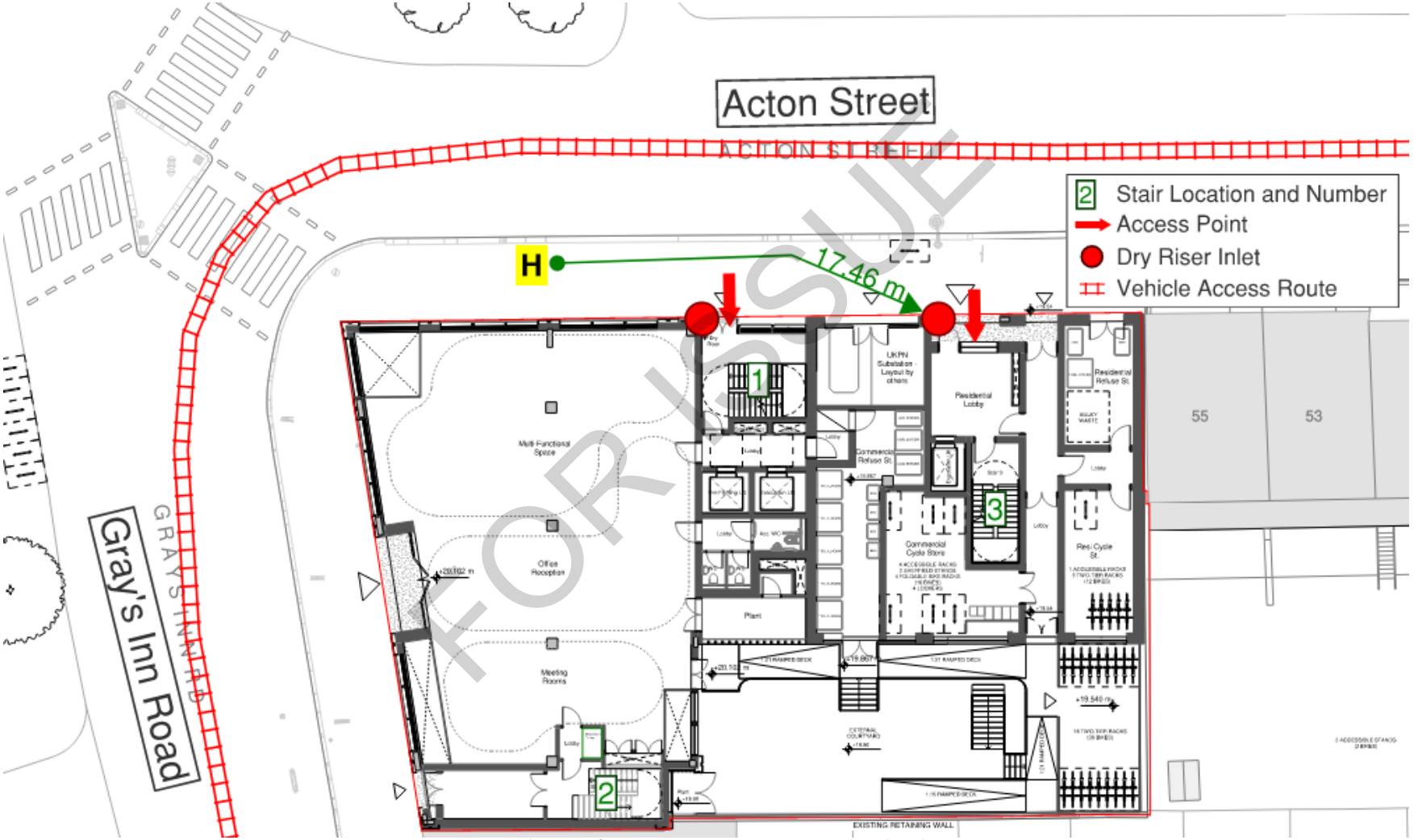

Figure 3: Indicative fire service access routes to the development

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Fire statement completed by	
Signature	 Marios Alexandrou MEng (Hons), MSc, CEng, MIFireE, IStructE
Date	23/05/2023

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