

Twickenham Riverside Fire Statement



Design Team

Applicant	London Borough of Richmond upon Thames
Project Manager	Arcadis
Architect	Hopkins Architects
Landscape Architect	LDA Design
Structural Engineer	Webb Yates Engineers
Mechanical & Electrical Engineer	Skelly & Couch
Transport Consultant	WSP
Quantity Surveyor	Arcadis
Planning Consultant	Savills
Townscape & Heritage Consultant	Iceni Projects
Sustainability Consultant	Method Consulting
Accessibility Consultant	Lord Consultants
Fire Consultant	FDS Consult UK
Ecology Consultant	BSG Ecology
Arboricultural Consultant	Thomson Environmental Consultants
Daylight & Sunlight Consultant	GIA Chartered Surveyors
Acoustic Consultant	TetraTech
Air Quality Consultant	Entran
Land Contamination Consultant	Geosphere Environmental
Archaeological Consultant	AOC Archaeology Group
Viability Consultant	Lambert Smith Hampton
Principal Designer	Nick Perry Associates
BIM Consultant	BIM Technologies



1. Document control

Issue	Date	Details	Author	Reviewer
1	23-Jun-2021	For client review.	LG	MY
2	21-Jul-2021	Incorporate design team comments.	LG	MY

2. Scope

FDS Consult (UK) has been appointed by Arcadis to prepare the Fire Statement for the Twickenham Riverside development on behalf of the London Borough of Richmond upon Thames ('the Applicant'). The description of proposed development is:

“Demolition of existing buildings and structures and redevelopment of the site comprising residential (Use Class C3), ground floor commercial/retail/cafe (Use Class E), and public house (Sui Generis), boathouse locker storage and floating pontoon with associated landscaping, restoration of Diamond Jubilee Gardens and other relevant works.”

The scheme will comprise of two buildings i.e. Wharf Lane and Water Lane.

Wharf Lane will include a basement, ground floor and four storeys above ground. The basement will comprise plant rooms and a bicycle store. The ground level will have an office unit, a pub/restaurant, public toilets, and a refuse store. The upper levels of the building will have single and duplex level flats.

Water Lane will include a ground floor and three storeys above ground. The ground floor will have shops, a café, plant rooms, a bicycle store and refuse stores. The upper levels will have additional plant rooms and residential units made up of single and duplex level flats.

The upper levels of both buildings will have internal communal corridors and lobbies to access the flats.

The development is considered a major development by the definition in Part 1 §2(1) of The Town and Country Planning (Development Management Procedure)(England) Order, 2015.

3. Requirements

The London Plan (March 2021) requires all major development proposals to be accompanied by a Fire Statement, which should provide detail on how the proposed development will mitigate fire risk by addressing the requirements of Policy D5(B5) and Policy D12(B) with respect to fire safety.

This document constitutes the Fire Statement and should be read in conjunction with the accompanying Fire Strategy Report.

The Fire Strategy Report outlines the way the design of the buildings will meet the functional requirements of the Building Regulations with respect to fire safety.

4. Authorship

The statement has been written by Mr Linx Govender, PGDip (Fire Eng), BTech (Mech Eng), AIFireE, who is an Associate with FDS Consult (UK) Ltd. He has extensive experience in the preparation of fire strategies for mixed user, residential and industrial developments.

The statement has been reviewed by Dr Mark Yau, PhD, BEng (Hons), who is an Associate Director with FDS Consult (UK) Ltd. He has extensive experience in the preparation of fire strategies for residential, commercial, and mixed occupancy developments.

5. Policy D5(B5) of the London Plan

Policy D5 Requirement	Design Fire Statement Proposal
<p>B Development proposal should achieve the highest standards of accessible and inclusive design. They should:</p> <p>5 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.</p>	<p>The provision of evacuation assistance within the buildings will be facilitated using refuges and evacuation lifts.</p> <p>The provision of evacuation lifts will comply with the recommendations of BS 9999.</p> <p>The design and installation of the evacuation lifts will be in accordance with the relevant provisions of BS EN 81-20 and BS EN 81-70.</p> <p>Persons who require evacuation assistance will have access to designated refuges located within the fire protected lift lobbies.</p> <p>Each refuge will have an emergency voice communication (EVC) system to BS 5839-9, which will connect evacuees with an off-site supervisory station, which will be constantly manned.</p> <p>Persons requiring evacuation assistance will be able to request assistance from the off-site supervisory station using the EVC.</p> <p>Each escape stair will have a single evacuation lift. The operation of evacuation lifts will require manual intervention by suitably trained and competent evacuation assistants.</p>

6. Policy D12(B) of the London Plan

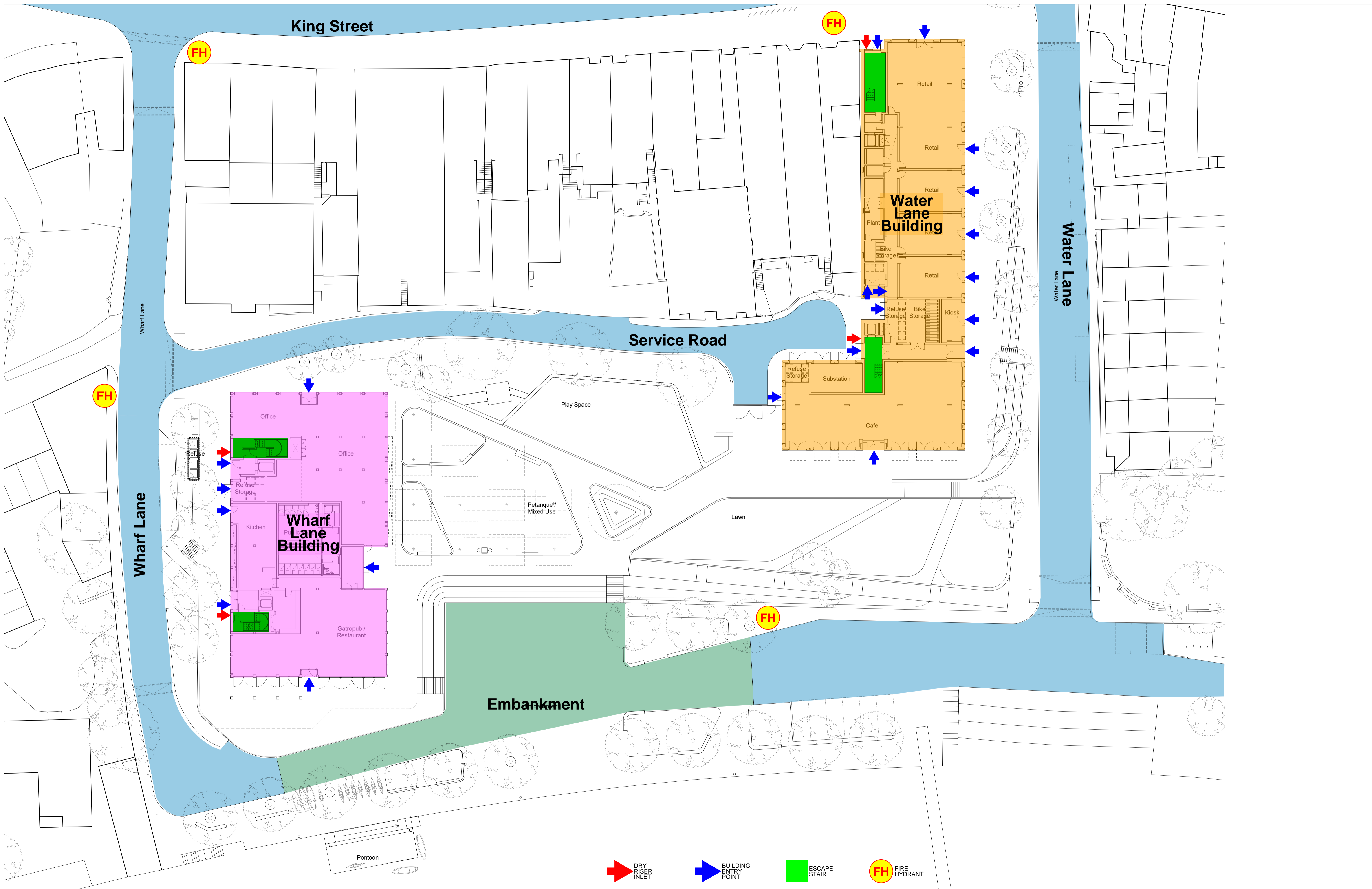
Policy D12 Requirement	Design Fire Statement Proposal
<p>B All major development proposals should be submitted with a Fire Statement, which is an independent fire strategy, produced by a third party, suitably qualified assessor. The statement should detail how the development proposal will function in terms of:</p> <p>1 The building's construction: methods, products and materials used, including manufacturers' details.</p> <p>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.</p>	<p>See §4 of this document for authorship credentials.</p> <p>The construction methodologies and material selection will comply with the guidance provided in BS 9991, BS 9999 and Regulation 7 of the Building Regulations.</p> <p>The detailed list of products, materials and finishes proposed for the development will be provided in the architectural design schedule.</p> <p>Where the use of proprietary products or building systems are proposed, a detailed product specification and installation method statement will be provided by either the Architect or installation contractor.</p> <p>The basis for the design of the means of escape from the residential units is BS 9991, <i>Fire safety in the design, management and use of residential buildings – Code of practice</i>, 2015 and is summarised as follows:</p> <ul style="list-style-type: none"> ▪ 'Stay-put' for the residents where only the flat affected by fire will need to evacuate initially. ▪ Communal escape routes, including corridors and stair cores, will provide fire protected escape routes to a place of safety away from the buildings. ▪ The width of communal escape routes is sized to safely discharge the design population during simultaneous evacuation, should this be required. ▪ All escape routes will be designed for egress by wheelchair users and others who need level access. ▪ Refuges and evacuation lifts will be provided for persons who require assistance during evacuation. Refuges will be within fire protected lift lobbies from where evacuation will be managed by evacuation assistants. <p>The basis for the design of the means of escape from all non-residential areas is BS 9999, <i>Fire safety in the design, management and use of buildings – Code of practice</i>, 2017 and is summarised as follows:</p> <ul style="list-style-type: none"> ▪ Simultaneous evacuation of the fire affected compartment. ▪ Adequate clear width of escape routes which are within recommended travel distance limits from all locations in the compartment. ▪ A fire protected escape stair serving the basement and discharging at ground floor directly to the outside. ▪ Final exits at ground level which lead to a place of ultimate safety outside.

Policy D12 Requirement	Design Fire Statement Proposal
<p>3 Features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans.</p>	<p>Passive fire protection features will be inherent in the construction of the buildings. The buildings will include:</p> <ul style="list-style-type: none"> ▪ Minimum 60 minutes fire resistant structural frame. ▪ Minimum 60 minutes fire resisting compartment walls and floors. ▪ Minimum 30 minutes fire resisting floors in the duplex flats. ▪ Escape stair enclosure will be at least 60 minutes fire resistance. ▪ Adequately sized escape stairs. ▪ Provision of adequate width and number of exits within recommended travel distance limits from all locations within a compartment. ▪ Provision of dry rising mains within fire protected stair cores. <p>The residential areas of the buildings will be protected by the installation of active fire protection systems which will include:</p> <ul style="list-style-type: none"> ▪ Automatic fire detection and alarm systems complying with BS 5839-6 in the flats and BS 5839-1 in the communal areas. ▪ Automatic water fire suppression systems complying with BS 9251 installed in all flats. ▪ Provision of adequate artificial lighting. ▪ Emergency lighting complying with BS 5266-1 in all communal areas. ▪ Smoke control provisions within communal escape routes. <p>The non-residential areas of the buildings will be protected by the following active fire protection systems:</p> <ul style="list-style-type: none"> ▪ Automatic fire detection and alarm systems complying with BS 5839-1. ▪ Automatic water fire suppression systems complying with BS EN 12845. ▪ Provision of adequate artificial lighting. ▪ Emergency lighting complying with BS 5266-1. <p>The buildings' package of fire safety information for handover to the management will include:</p> <ul style="list-style-type: none"> ▪ Fire safety strategy report. ▪ Specifications for passive construction and proprietary building systems. ▪ Design, installation, commissioning, and handover certificates for all active fire protection systems. ▪ Operations manuals. ▪ Maintenance and inspection schedules. ▪ Test certificates. ▪ Final construction plans.

Policy D12 Requirement	Design Fire Statement Proposal
<p>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.</p>	<p>The appended site Ground Floor Plan indicates the following information for both buildings:</p> <ul style="list-style-type: none"> ▪ Building entry points (BEP's). ▪ Escape stair cores. ▪ Existing statutory hydrants in the vicinity of the development. ▪ Dry rising mains inlets. <p>The locations of dry riser inlets will be adjacent BEP's close to the escape stair cores. Conspicuous signage in accordance with BS 9990 will indicate their locations.</p> <p>The locations of control panels which manage communal active fire protection systems will be finalised during the detailed design in consultation with the statutory authorities.</p> <p>It is recommended that the landlord communal fire detection and alarm systems be monitored by an off-site supervisory station.</p>
<p>5 How provision will be made within the curtilage of the site to enable fire appliances to gain access to the building.</p>	<p>Fire appliance access and hardstandings will be on the public streets as indicated on the site Ground Floor Plan.</p> <p>The decision on which measures will be used to control vehicle access along the embankment has not finalised yet e.g. traffic cameras or bollards.</p> <p>If bollards are installed to restrict general vehicle traffic, these will be removable to allow emergency vehicles access.</p>
<p>6 Ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.</p>	<p>The design of all the buildings is in accordance with the current Building Regulations and design recommendations.</p> <p>The design change process for future modifications to the buildings should assess:</p> <ul style="list-style-type: none"> ▪ The impact on the fire strategy. ▪ The requirements of the Building Regulations, design recommendations and industry best practice which are effective at the time.

7. Conclusion

- 7.1 The Fire Statement has been prepared to support the planning application for the Twickenham Riverside development in accordance with the requirements of the London Plan.
- 7.2 The objective of the Fire Statement is to outline how the buildings will comply and function in terms of the fire safety requirements of Policy D5(B5) and Policy D12(B) of the London Plan.
- 7.3 The Fire Strategy Report for the buildings, which accompanies this Fire Statement, demonstrates that the design of the buildings satisfies the functional requirements of the Building Regulations and will be submitted for Building Control approval as part of the future design process.
- 7.4 The proposed fire protection measures may be summarised as follows:
- AFDAS in all flats to a Grade D1/D2, Category LD1 as per BS 5839-6.
 - Category 2 AWFSS in all flats as per BS 9251.
 - Natural smoke control systems to communal escape routes.
 - 60 minute fire protected escape stairs.
 - Refuges in all escape stairs except at the ground level.
 - AFDAS in all non-residential areas to at least Category L3 as per BS 5839-1.
 - Class OH1 and OH3 AWFSS in non-residential areas as per BS EN 12845.
 - 60 minutes fire compartmentation separating occupancies.
 - Dry rising mains within escape stairs.
 - 1m² AOV at the head of each escape stair.



Date	Rev.	Description	Approved By
11/06/2021	P01	M125 - Draft Planning Issue	MS
30/06/2021	P02	M141 - Issue to LDA	MB
05/07/2021	P03	M143 - Issue to LDA	MB
07/07/2021	P04	M145 - Issue to All Consultants	MB
09/07/2021	P05	M149 - Issue to All Consultants	MB

Date	Rev.	Description	Approved By

DRAFT

Scale at 1:250

0 2 5 10m

Project	Twickenham Riverside	Code	TRS	File Name	Number	Rev.
Subject	Proposed Ground Floor GA Plan			TRS-HAL-ZZ-00-DR-A-	2500	P05
Architects	Hopkins Architects Limited 27 Broadley Terrace, London, NW1 6LG T: 020 7724 1751 E: mail@hopkins.co.uk	Date	06/08/21	Scale	1 : 250	at A1