

# FIRE SAFETY STRATEGY

ON BEHALF OF

THE RICHMOND CHARITIES

DEMOLITION OF EXISTING GARAGES AND ERECTION OF FIVE ONE-BED

SINGLE-STOREY DWELLINGS

AT

ST MARY'S GROVE GARAGES SITE,  
RICHMOND

NOVEMBER 2024

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## 1. INTRODUCTION

This Fire Safety Strategy has been prepared by Clive Chapman Architects to support a full planning application for a new residential development of 5 no. single storey 'Passive-house' (4 x M4(3) & 1 x M4(2)) almshouses for the over 65s, at Mitre Mews, Richmond TW9 1BX.

The site, owned by The Richmond Charities, previously comprised 17 garages off a cul-de-sac with an access road from St Mary's Grove.

## 2. POSITION & ASSESS OF EXTERNAL FIRE APPLIANCES

The closest fire station, Richmond H42, is located 940m from the site.

The existing access road forms the entrance point for external fire appliances, and has an overall width of circa 8.98m between buildings. The development proposes re-surfacing the access road to demark footpaths on either side, with a change of surface colour and texture, whilst keeping it a shared surface with the road. A pinch point will be by the two visitor parking bays and the proposed footpath, with a width of 3.79m.

As the site is a cul-de-sac, and that there is no turning facility for a fire engine, the strategy is to install a 'dry riser' fire main, designed and installed to BS 9990:2015. A fire engine would be able to stop 20.0m into the site, with the dry riser inlet position within 13.3m of the stopping point. The surface mounted, two-connection inlet, is located on the footpath in front of a protecting brick planter, whilst being in clear view of the Fire Brigade. The riser would run under the footpath, to the centre of the development, with an outlet along a run of 35.8m. The outlet is also surface mounted, adjacent to a fire-fighting footpath, set back from the building.

From the dry riser outlet, the distance to the farthest point within the farthest dwelling, plot 5, is a maximum of 38.4m, within the 45m maximum distance.

The breeching valve will have a 65mm diameter instantaneous couple to BS 336 c/w with non-return valves, blanking caps and chain. The valves will be designed, constructed and manufactured in accordance with BS 5041: Part 3, and hydrostatically tested to 20 bars off-site by the manufacturer. The inlet breeching unit for a 100mm dry riser will have two 65mm male hose

connections, which provide connection points for the fire brigade to supply the pipe work with water. The double inlet allows the connection of two fire hoses with both having a non-return mechanism to prevent any backflow of water into the fire hose. The valve has a 25mm drain point to allow the pipe work to be drained. The dry riser system has been designed and installed by Triangle Fire Systems Ltd.

A drawing has been provided that outlines the fire strategy and travel distances discussed, refer to SMGG-119 C7 Fire Brigade Travel Distances & Ground Floor Plan.

As the dwellings are single storey, all habitable rooms open directly onto a hall leading to the final exit, safeguarded with 30-minute fire doors. They are also provided with escape doors and windows.

### **3. EVACUATION ASSEMBLY POINT**

In the event of a fire, the evacuation assembly point will be at the front of The Mitre public house at No.20 St Mary's Grove, which is under the ownership of the charity.

### **4. FIRE SAFETY FEATURES**

Fire detection and fire alarm systems are to be installed to category LD1, the highest level of protection of all occupants who might occupy the dwelling over the lifetime of the fire detection and fire alarm system. They will be installed throughout the premises, incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all rooms and areas, other than those with negligible sources of ignition, such as toilets, bathrooms and shower rooms (hallway, living room, kitchen, bedroom, airing / meter cupboards).

A 1 litre water mist fire extinguisher will be provided for each dwelling, with a two-year replacement programme.

## 5. CONSTRUCTION METHODS

Being a Passivhaus design, the building construction will be structural insulated timber panels (SIPs) with external brick wall envelope, and plasterboard internal linings. Windows will be aluminium/timber composite, triple glazed. The roof will be an extensive green roof over posi-joists, with plasterboard lining.

External walls are to meet class B-s3 d2 or better, the roof being class BroofT4, and all surface linings of walls and ceilings should meet classification C-s3 d2.

The site backs onto and forms the boundary to neighbouring gardens of houses off St Mary's Grove, together with a Pilates studio and garage (latter being re-built). Because of this, there are no unprotected areas to this side of the building, and 30 minutes fire resisting construction is to be used for the external envelope. Internally, 60 minutes fire resisting construction is proposed between internal separating walls (compartments).

There is no gas and cooking facilities will be electric and heating will be underfloor heating via heat pumps.

## 6. FIRE SAFETY MANAGEMENT & INFORMATION

A responsible person will be appointed by the The Richmond Charities for the information management of fire safety. They will have access and maintain all information to enable them to:

- Understand and implement the fire safety strategy of the building.
- Maintain any fire safety system provided in the building.
- Carry out an effective fire risk assessment of the building.

Fire safety information will be provided at the completion of the development and at first occupation. It will incorporate:

- Location of fire protection measures.
- An as-built plan of the building showing all of the following:
  - Escape routes.

- Location of fire-separating elements (including cavity barriers in walk-in spaces).
- Fire door locations.
- Locations of heat and smoke detectors, fire extinguishers, dry fire mains.
- Any high-risk areas.

Details will be provided of all of the following:

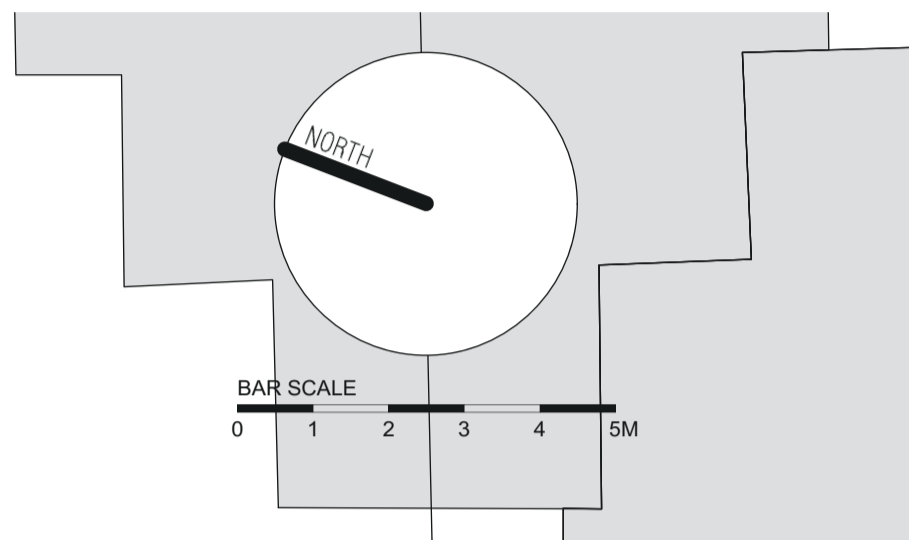
- Specifications of fire safety equipment provided, including routine maintenance schedules.
- Any assumptions regarding the management of the building in the design of the fire safety arrangements.
- Any provision enabling the evacuation of disabled people, which can be used when designing personal emergency evacuation plans.

ACCOMMODATION SCHEDULE

SELF-CONTAINED DWELLINGS FOR THE OVER 65s  
 4 No. 1 BED / 2 PERSON WHEELCHAIR ACCESSIBLE M4(3) UNITS @ 60M<sup>2</sup>  
 1 No. 1 BED / 2 PERSON ACCESSIBLE & ADAPTABLE UNIT WITH WET ROOM M4(2) @ 50M<sup>2</sup>  
 5 No. UNITS TOTAL

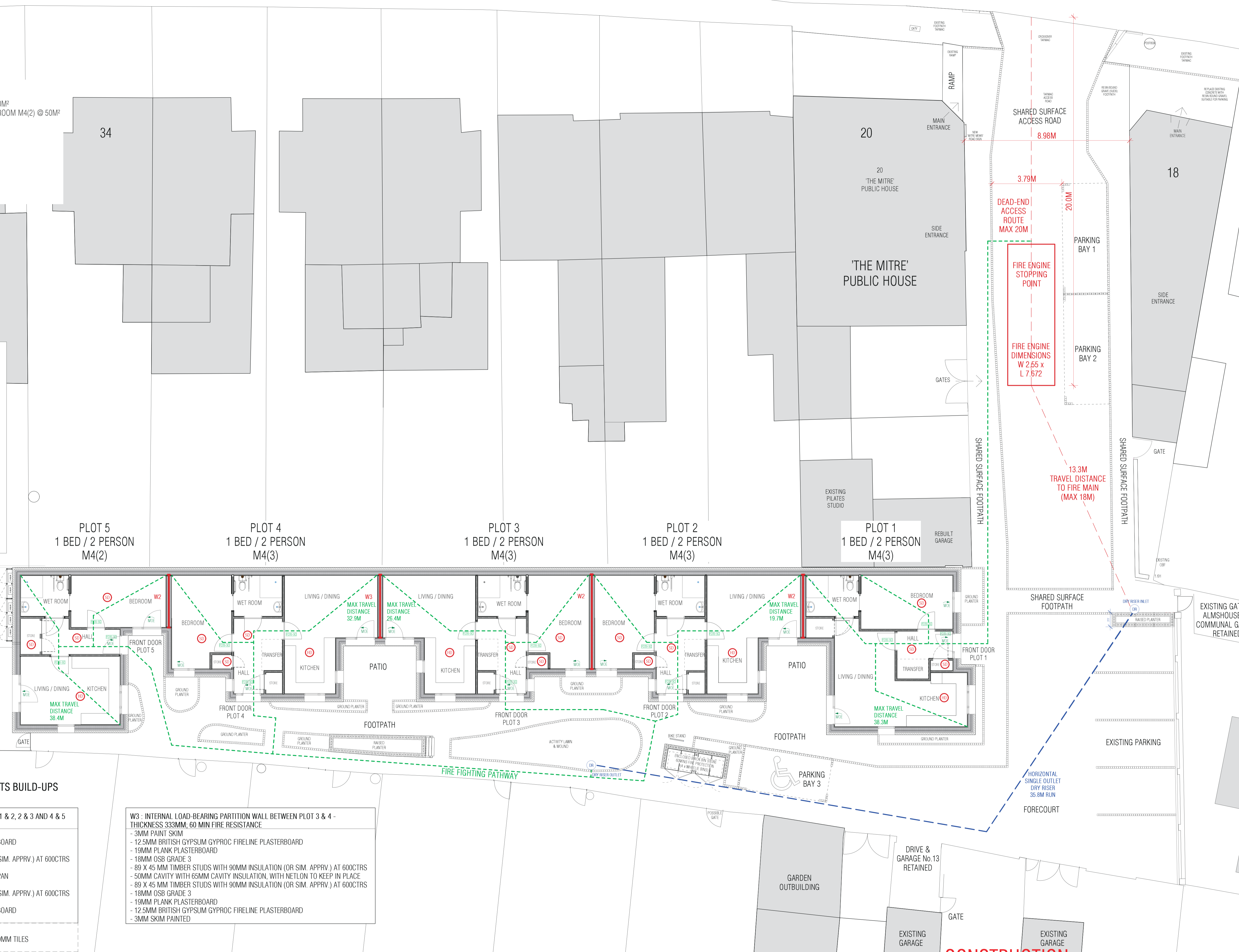
PARKING:  
 1 No. BLUE BADGE DISABLED PARKING BAY (ELECTRIC CHARGING)  
 2 No. VISITOR BAYS

NOTE:  
 DRY RISER REQUIRED FOR FIRE BRIGADE ACCESS.



FIRE STRATEGY / MEANS OF ESCAPE (B1, B2 & B3) KEY:

- FD30-SC 30-MIN FIRE RESISTING DOOR WITH SELF-CLOSER
- MOE MEANS OF ESCAPE
- DR DRY RISER SURFACE MOUNTED INLET / OUTLET BREACH (BY TRIANGLE FIRE)
- DR DRY RISER
- TRAVEL DISTANCE FROM OUTLET WITHIN 45M OF ALL POINTS WITHIN EACH PROPERTY
- SD INTERLINKED SMOKE DETECTOR
- HD INTERLINKED HEAT DETECTOR
- D1 LD1 FIRE ALARMS (TO BS 5839-6 - 2019)
- W2 SEPARATING PARTY WALLS - 60 MINS FIRE RESISTANCE & WALL BUILD-UP CODE



SEPARATING PARTY WALLS BETWEEN UNITS BUILD-UPS  
 60 MINUTES FIRE RESISTANCE

- W2 : INTERNAL LOAD-BEARING PARTITION WALL TO PLOT 1 & 2, 2 & 3 AND 4 & 5 THICKNESS 322MM, 60 MIN FIRE RESISTANCE**
- 3MM PAINT SKIM
  - 12.5MM BRITISH GYPSUM GYPROC WALLBOARD PLASTERBOARD
  - 19MM PLANK PLASTERBOARD
  - 89 X 45 MM TIMBER STUDS WITH 90MM INSULATION (OR SIM. APPRV.) AT 600CTRS
  - 12.5MM FERMACELL
  - 50MM CAVITY WITH 65MM CAVITY INSULATION BY KINGSPAN
  - 12.5MM FERMACELL
  - 89 X 45 MM TIMBER STUDS WITH 90MM INSULATION (OR SIM. APPRV.) AT 600CTRS
  - 19MM PLANK PLASTERBOARD
  - 12.5MM BRITISH GYPSUM GYPROC WALLBOARD PLASTERBOARD
  - 3MM SKIM PAINTED
- NOTE : WALL TO WET ROOMS  
 - CHANGE WALLBOARD FOR 12MM TILE BACKER BOARD + 10MM TILES

- W3 : INTERNAL LOAD-BEARING PARTITION WALL BETWEEN PLOT 3 & 4 - THICKNESS 333MM, 60 MIN FIRE RESISTANCE**
- 3MM PAINT SKIM
  - 12.5MM BRITISH GYPSUM GYPROC FIRELINE PLASTERBOARD
  - 19MM PLANK PLASTERBOARD
  - 18MM OSB GRADE 3
  - 89 X 45 MM TIMBER STUDS WITH 90MM INSULATION (OR SIM. APPRV.) AT 600CTRS
  - 50MM CAVITY WITH 65MM CAVITY INSULATION, WITH NETLON TO KEEP IN PLACE
  - 89 X 45 MM TIMBER STUDS WITH 90MM INSULATION (OR SIM. APPRV.) AT 600CTRS
  - 18MM OSB GRADE 3
  - 19MM PLANK PLASTERBOARD
  - 12.5MM BRITISH GYPSUM GYPROC FIRELINE PLASTERBOARD
  - 3MM SKIM PAINTED

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REVISIONS:  
 C1- 26.07.2024: GA plan simplified for clarity. Dry riser location and travel distances adjusted.  
 C2- 13.09.2024: Dry riser inlet/outlet cabinets mounted on brick wall / enclosure for visibility, and moved to reduce travel distance.  
 C3- 26.09.2024: Dry riser inlet position moved due to pipework below ground.  
 C4- 14.06.2024: Fire Brigade travel distances made clear.

REVISIONS:  
 C1- 16.01.2024: GA plan revisions: Vertical movement joints added. Meter&BT boxes, moved air bricks to suit this. W05/2 brick opening changed to 1045mm. Levels adjusted to OS GPS. Cons build up notes updated, and annotations. Internal cupboard doors updated.  
 C2- 14.02.2024: Internal walls updated to match setting out with Kingspan and annotations. Dry riser layout revised to special design (BO)  
 C3- 21.02.2024: Compost/Food waste added. Cons. notes updated.  
 C4- 14.06.2024: Fire Brigade travel distances made clear.

**CONSTRUCTION**

Project  
 ST MARY'S GROVE GARAGES, RICHMOND, TW9

Drawing  
 GA - FIRE BRIGADE TRAVEL DISTANCES & GROUND FLOOR PLAN

Drawing No  
 SMGG-119 C7

Scale  
 1:100 @ A1

Date  
 08.02.2024

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