



Cromwell Tower

The City of London Corporation

External Fire Risk Assessment

**Prepared by:
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Site information

Building Name Cromwell Tower
Building Ref
Division Department of Community & Children's Services.
Estate Barbican Estate
Property Name Cromwell Tower
Property Ref

Assessor details

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Date of the assessment : 18.05.2022

Date of first draft reviewed : 08/08/2022

Date when finalised : 19/08/2022

Date sent to premises controller: : 19/08/2022

Date of next assessment : 18/05/2023

Report Signed by Assessor

Signature: *Russell Peacey*

Print Name: Russell Peacey

Date: 08/08/2022

Name of Assessors reviewer:

Printed Name: Paul Boughton

Signature of Assessor reviewer

Signature: *Paul Boughton*

Date of Review

Date: 08/08/2022

Contents

Minor amendment history.....	5
Preamble	5
Executive Summary	5
Overall risk assessment.....	5
Survey Methodology.....	6
Specific Site Survey Information	7
Description of site.....	26
Use of Site	27
Passive Fire Precautions	27
Active Fire System	30
Fire Ignition Sources	31
Fire Training	31
Make an assessment of the fire risk	32
Formulate and document an action plan	32
Fire Risk Assessment reviews (CoL use only)	49
Appendix One.....	51
Pre-Survey Questionnaire	51
Annex A – Actions outstanding from previous fire risk assessment	56
Annex B – Unintentional fires during the last two years.....	59
Annex C – maintenance records of fire systems.....	59

Minor amendment history

Details of minor amendment history between detailed full assessment intervals, carried out.
(Attached to rear of the main assessment)

Date of assessment	Department Assessor name	Brief details	Department Manager responsible for actioning

Preamble

This Fire Risk Assessment has been prepared to comply with the requirements of the Articles of the Regulatory Reform (Fire Safety) Order 2005.

The assessment process has been developed to meet the requirements of the City of London (CoL).

This Fire Risk Assessment document reflects the significant hazards associated with the operation of this site and identifies suitable controls to minimise risks to health and safety which need to be actioned by the CoL person responsible for undertaking corrective actions.

Executive Summary

The building has been rated as a moderate risk. This is because the flat entrance doors are not fitted with effective self-closing devices, and due to some compartmentation defects in the service risers and the flats.

Other than that, the building is considered satisfactory.

Overall risk assessment

The overall risk assessment of the building is a **Moderate Risk**.

Overall comment on the Risk Assessment of health and safety. The health and safety arrangements of site were considered appropriate. The site appears to be well managed.

Significant General Safety Issues – Safety chain needs replacing at the top of the escape ladder in the lift motor room. Light switch requires repair in Caretakers room on L02.

Survey Methodology

Site information, Specific Site Survey Information and the responses to the Pre-Survey Questionnaire were obtained by email. The response was obtained from David Blane.

A site visit was carried out by Russell Peacey on 18th & 19th May 2022 to undertake a physical survey of the building.

All means of escape were walked to check their availability.

During the initial visit, flat entrance doors were inspected externally to assess their performance, although this did not amount to a full and detailed inspection of the doors and no performance guarantee can be given.

Further checks of a sample of at least 10% of the flat entrance doors will be conducted during the Type 3 assessment.

Compartmentation was assessed as far as it was reasonably practicable without carrying out an intrusive survey.

Note 1 – risers were accessed on a sampling basis.

Note 2 – Understood that the high voltage electric room at L03 (protected by CO2 extinguishing system) is not under Barbican Estates control and is outside the scope of this assessment.

Note 3 – There was no access to the roof, service tunnel, individual resident store sheds. The service tunnel is considered by a separate FRA.

Relevant documentation was inspected to check compliance with recommended testing and maintenance regimes for fire safety equipment and procedures.

Further information was obtained by informal questioning of staff where necessary. This included a Retrospective Fire Strategy for Cromwell Tower completed by Arup dated 16th February 2022.

The Regulatory Reform (Fire Safety) Order 2005 does not require the detailed fire safety provisions of an existing building to comply with any particular standard in order to achieve a satisfactory fire risk assessment outcome. Rather, the Order places a duty on the responsible person to take such general fire precautions as will ensure, so far as

reasonably practicable, the safety of his employees and relevant persons who are not his employees.

However, it is good practice to adopt a recognized standard or code of practice to act as a benchmark against which fire precautions should be assessed*.

This particular fire risk assessment made use of the following publications when assessing the suitability of general fire precautions:

- Local Government Association, Fire Safety in Purpose Built Blocks of Flats guidance.
- Approved Document B Volume 1 Dwellings 2019 ed. Incorporating 2020 amendments.
- BS 9991:2015, Fire safety in the design, management and use of residential buildings. Code of practice.
- CP3 Chapter IV Part 1 1971

BS 5839 Part 6:2019, Code of Practice for the Design, Installation, Commissioning and Maintenance of Fire Detection and Fire Alarm Systems in Domestic Premises

City of London Housing residential building fire safety policy.

*Particular care should be exercised when using a design guide for new buildings (such as British Standard 9991 or 9999) as a benchmark for the fire safety of an existing building.

Specific Site Survey Information

<p>Is there evidence on site that fire deficiencies/ faults are addressed in a timely manner?</p>	<p>No –</p> <p>LO2/Caretakers Room – A damaged light switch is a potential fire safety and health & safety issue.</p> <p>See Action 1</p> <p>In the communal lobbies, several concrete access doors to the flat bathroom risers were found to have been left open and/or have faulty locks.</p> <p>This compromises the compartmentation</p>
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	<p>between the risers and the lift lobbies.</p> <p>See Action 2</p> <p>Several fire doors to the stairway lobby / stairway were found to have ineffective self-closers.</p> <p>Faulty doors were noted in the flowing levels – ??,??,?? (door warped),??,??,??,?,? & ?.</p> <p>See Action 3</p>
<p>Emergency lighting units are charging (diodes normally green or red are illuminated).</p>	<p>No</p> <p>Self-contained luminaires seen in plant areas display green LEDs.</p> <p>Much of the emergency lighting in the building is provided by “Standby Lighting” (as defined by BS5266 Part 1) with an alternative power supply provide by a generator. It was not possible to confirm the full locations and adequacy of these installations as part of the fire risk assessment survey.</p> <p>It is understood that CoL are commissioning an emergency lighting survey.</p> <p>See action 4</p> <p>The Arup Fire strategy states that <i>“It has been confirmed by BE that there is no emergency lighting within the storage levels”</i>.</p>

	<p>This appears to be the case based on the inspection of the areas concerned.</p> <p>See action 5</p>
<p>Escape routes not blocked & clearly marked.</p>	<p>No</p> <p>The secondary means of escape from several areas are not considered to be adequately signed – these include the tenant store areas via the spiral stairways (signage in the corridors and stairways is inadequate), ventilation plant room (via external stairway into lower lift lobby) and lift motor room (via door to a fixed ladder).</p> <p>Thumb turn door releases are also not signed.</p> <p>It has been confirmed by CoL that a fire safety signage project is in progress for this estate.</p> <p>See action 6</p> <p>The fire exit at top of spiral escape stair leading up from the corridor containing switch gear rooms and resident stores is hard to open.</p> <p>See action 7</p> <p>More information considering secondary means of escape from the flats is discussed in the Type 3 assessment.</p>

CoL has confirmed that the management strategy for the secondary means of escape is as follows - *All 9 miles of balcony are formally inspected once per year by the House Officer team.*

Obstructions are labelled with an orange sticker and residents are given a week to remedy. Items if still present, are then removed. This inspection also reports any faults found.

Additionally, the window cleaning contractors clean all windows every 6 weeks. They are tasked with fault and obstruction reporting as well.

In the resident bulletin CoL regularly run fire safety messages, these include fault reporting and the importance of obstruction free balconies.

Housekeeping on the areas of the escape balconies that were visible appeared to be satisfactory.

On levels L1-L5 the secondary means of escape from flats passes through the neighbouring flat. CoL has confirmed that a standard letter is periodically sent to residents on these floors explaining the escape routes and how they

	<p>should be maintained. However, as these are leasehold flats these escape routes are not inspected.</p> <p>See action 8</p> <p>It could not be confirmed if the fire exit doors from the ancillary accommodation (plant rooms and resident storage areas which are seldom used, are appropriately inspected).</p> <p>See Action 9</p>
Fire doors with electrical hold open devices are closed by manual operation at 22:00hrs (on final walk round in sleeping accommodation or earlier depending on site specifications).	N/A
Are there any restrictions from Building Control, Planning & Heritage that could have an impact of the premises?	<p>Yes - The building is Grade II* listed.</p> <p>It is understood that CoL has commissioned architectural firm to complete a listed building application in relation to planned fire safety works.</p>
Are Salvage & Business continuity plans up to date and suitable and sufficient.	Yes
Is there any neighboring fire risk that could significantly impact on the future fire safety of the building?	None known.
During the inspection did you identified any cladding which was not already provided to you from the client documentation?	No. The building has a concrete façade.
Are the onsite PEEPs and GEEPs templates adequate?	Under current guidance relating to Purpose Built Blocks of Flats with a Stay Put strategy there has been no requirement to complete PEEPs in

	<p>this type of premises. A recent government consultation published in May 2022 supports this.</p> <p>It is CoL policy that they write to all residents, and where residents identify themselves as persons who may require assistance in an evacuation, they are recorded on a Vulnerability List (see below).</p>
<p>Where there any occupant/visitors identified who could be incapacitated and unable to evacuate safely and were not covered under by a PEEPs and GEEPs?</p>	<p>The Premises Information Box (PIB) contains a Vulnerability List for the information of the Fire Brigade, indicating several residents who may have difficulties self-evacuating and may therefore require assistance / rescue from the Fire Brigade.</p> <p>It is understood that CoL policy regarding PIBs and Vulnerability Lists is currently under review and they monitoring ongoing consultations / guidance regarding PEEPs and “Emergency Evacuation Information Sharing”.</p>
<p>Are there inductions for staff and contractors?</p>	<p>It is understood that CoL complete inductions for staff.</p> <p>CoL has confirmed that fire safety training is completed by the Lobby Porters.</p>

	<p>It is understood that Lobby Porters complete Fire Extinguisher Training and mandatory city training on “City Learning”.</p>
<p>Is there arrangement in place for the safe evacuations of visitors?</p>	<p>N/A for a purpose-built residential block of flats.</p>
<p>Is there a Building Fire Strategy and a Fire Management Plan of the building?</p>	<p>A retrospective Fire Strategy has been completed by Arup – see Cromwell Tower - Fire Strategy Report dated 16th February 2022 and available from Col.</p> <p>It is understood that the recommendations of the Arup Fire Strategy report are currently under consideration by CoL.</p>
<p>During the inspection did you identified any current working practices that could be improved to reduce the fire risk to the property, e.g., removing sources of ignition or reduce the amount of fuel stored?</p>	<p>Yes</p> <p>A metal ladder and vacuum are stored in the electric cupboard off reception. This could cause damage to the electrics and / arcing.</p> <p>See Action 10</p> <p>A Mobility Scooter was seen under charge in one of the lift lobbies. This was reported to CoL during the assessment.</p> <p>Battery powered vehicles such as Mobility Scooters, bicycles and scooters can be subject to intense and long burning fires, particularly when Lithium Ion</p>

	<p>batteries are used and they are under charge, and as such should not be stored or charged in communal means of escape.</p> <p>See action 11</p> <p>Battery Powered vehicles (Mobility Scooters, scooters, bicycles, and cars/vans) are becoming more common and have caused several fires in residential buildings.</p> <p>See Action 12</p>
<p>Is there evidence of up-to-date electrical PAT testing in place?</p>	<p>No</p> <p>Whilst some appliances have up to date PAT labels, some appliances checked have no labels or what appear to be out of date labels – this included –</p> <ul style="list-style-type: none"> • L02 Caretakers room – battery chargers, vacuum cleaner. • Reception fire alarm cupboard – vacuum cleaner (label unreadable) • Mezzanine – cleaners equipment – no obvious PAT labels or dated August 2020. • Reception desk – poor cable management <p>See action 13</p>

	<p>There are what appear to redundant white goods stored in Switch Gear 3A.</p> <p>See action 14</p> <p>There was no evidence to confirm that 3rd party telecoms equipment noted in the Ventilation Plant areas and stairway electrical riser (EDA) is under an appropriate inspection and test regime.</p> <p>See action 15</p>
<p>Is the fire detection & warning system type adequate for the building use?</p>	<p>No</p> <p>The building is a purpose-built block of flats with a stay put strategy so is not required to have a communal fire alarm system in the residential areas.</p> <p>Fire alarm systems in the flats are covered by the Type 3 fire risk assessment.</p> <p>There is an L5 Fire Detection and Warning system covering the ancillary areas and persons in these areas are expected to simultaneously evacuate.</p> <p>One “Garchey” waste disposal system room is an inner room of the Wet Riser pump room. There automatic detection in</p>

	<p>the pump room but no obvious sounders / beacons in this area. The connecting door as no vision panel.</p> <p>See action 16</p>
<p>Are the fire action notices compliant provide the reader with relevant instruction and position correctly positioned?</p>	<p>The Fire Action Notices had not been completed with the site address. This information is useful to visitors who may need to dial 999.</p> <p>See action 17</p>
<p>Are there adequate sign to maintain the exit routes e.g. keep clear, floor marking etc.?</p>	<p>The majority of fire doors are not signed e.g. Fire Door Keep Closed, or Fire Door Keep Locked, as applicable. It is understood that this is being address by the estate signage project.</p> <p>The external sides of the fire exits from the main stair and from the resident store areas (spiral stairs) are not signed Fire Exit Keep Clear.</p> <p>See action 18</p> <p>Floor level signs are available in the stairway and the lift lobbies (above the lifts) but they do not meet current standards – also flat numbering is not included on these signs.</p>

	See action 19
<p>Are the existing active Fire Protection Measures sufficient for the buildings use</p>	<p>Current systems include the Fire Alarm and Emergency Lighting (covered above) and also the fusible link fire shutters.</p> <p>It is noted that the Arup Fire Strategy has recommended additional active systems (automatic opening vents and sprinkler systems) for this building and it is understood that these are under consideration by CoL.</p> <p>L39 Lift Lobby Ventilation</p> <p>The lift lobby is ventilated by a permanently open vent above the exit door to the stairway. It appears that this vent has been partially blocked up. It is understood that the vent is necessary as this is the top accommodation floor, so cannot be ventilated by opening balcony escape doors.</p> <p>There is only one flat opening into the lift lobby at this level so the risk is considered low and should be partially mitigated by the installation of an FD60S self-closing flat entrance door.</p> <p>See Action 20</p>

	<p>In general, the smoke vents, grills and louvres in the building, appear to be contaminated by an historical accumulation of dust / exhaust fumes etc. It is not clear to what extent they have been cleaned / maintained.</p> <p>See Action 21</p>
<p>Is there evidence on site of regularly fire door inspections?</p>	<p>It is understood that periodic checks are made of the escape doors from the balconies. An engineer was on site at the time of the assessment make repairs to several thumb turn devices on these doors.</p> <p>It's also understood that the stairway and stairway lobby doors are periodically inspected and where necessary repairs undertaken.</p> <p>Flat Entrance Door Inspections</p> <p>It was not confirmed how flat entrance doors are inspected. No records were provided.</p> <p>See Action 22</p>
<p>Having checked 10% of fire Door shutters and curtain were any trends identified that could impact the safety of the building (Please list doors and curtain checked)</p>	<p>No</p> <p>The flat entrance doors appear to be of the same type. Based on information provided they</p>

are considered to be notional fire doors, with no effective self-closing device fitted. It was not possible to confirm the fire resistance of top and side panels but they do not appear to be fitted with fire resisting letter boxes. Therefore, the flat entrance doors do not comply with current standards and guidance.

It is understood that a programme is in place to replace all the flat entrance doors including top and side panels with certified FD60S door sets fitted with external overhead self-closing devices.

See Action 23

Each flat has three cupboards accessed directly from the lift lobby – these cupboards contain electric meters (top cupboard), post (middle cupboard) and waste materials (bottom cupboard). Several doors to the cupboards were found to have been left open.

It is understood that the cupboard doors form part of the compartmentation of the flat and will be replaced as part of the flat entrance door project.

	See Action 24
Is there evidence of regularly local checks and annual testing by competent?	A PPM schedule was provided, to demonstrate that fire safety systems are subject to a suitable maintenance regime.
Has the site identified emergency responders' routes and fire hydrants and documented these?	Yes – Hydrants and Rising Mains are identified on site plans located in the PIB.
Are there any known neighboring activities that could jeopardy a prompt arrival of the emergency responders?	None.
Is there evidence of anti-social behaviour at the site?	None.
Are there any seasonal activities undertaken by the site or naturally occurring events which could affect the fire risk profile of the site e.g., bush fires etc?	None.
Are there any renewable energy source at the site that cannot be readily isolated at source in the event of a fire?	None.
Are back up generation tested to ensure they provided adequate supplies to fire safety devices?	Information provided indicates that the back up generator is under an appropriate maintenance regime.
Is the premises controller aware of the Col guidance on Hot Works?	Understood that contractors are responsible for completing a hot works permit.
Are they evacuation procedures for all time the building is in used e.g., out of hours procedures for weekend?	N/A – as a Stay Put strategy – however a fire safety folder is retained behind the reception desk with information for the 24/7 Lobby Porters, including that to provide to firefighters.

<p>Upon review of on-site documentations, how long did it take the building to evacuate?</p>	<p>N/A – Stay Put strategy.</p>
<p>Are security and arrangements adequate to deter deliberate fire attempt (e.g. terrorist and arson) in an event?</p>	<p>Yes – the building has 24/7 security and CCTV. There is also a terrorism alert system linked to all the flats. External areas are kept free of storage.</p>
<p>Is large lithium-ion battery charged on site?</p>	<p>The car park has electric vehicle charging points. These are outside the scope of this FRA. Smaller electric vehicles covered by the electrical safety question above.</p>
<p>When was thermographic inspection last undertaken at site?</p>	<p>None completed.</p>
<p>Has the property had any unintentional fires over the last two years if so, please provide details?</p>	<p>None known.</p>
<p>Were there any significant gaps identified in the compartments (please list details)?</p>	<p>Yes Fire Stopping in risers (PDA and EDA and electrical cupboards) In several of the bathroom risers (PDA) it was noted that plumbing works have penetrated the compartmentation with no, or inadequate remedial fire stopping works completed. (Note Col confirmed that where recent and ongoing plumbing works take place, the penetrations are sealed with double plaster board to achieve 60 minutes fire resistance).</p>

There also appear to be some inadequately fire stopped service penetrations in the stairway riser (EDA) and in electrical cupboards at Podium Level at levels 01,02 & 03.

It is understood that City of London have previously identified the compartmentation defects and have commissioned a specialist to complete a compartmentation survey at Shakespeare Tower (of similar design) to provide a specification for remedial works.

See Action 26

Ventilation Riser / EDA

It is noted that the electrical riser (EDA) and ventilation shaft are joined above L37. The shaft opens into a small lobby on these floors. There is a concrete floor on each level of the riser from L37 and below.

As the shafts are joined the firestopping of the riser below L37, housekeeping in the riser fixed electrical inspection, and inspection of 3rd party electrical equipment in the riser are considered pertinent and are covered by other questions / actions in this report.

	<p>Ceiling Voids</p> <p>In some areas of the towers e.g. stairway landings, lower level lift lobbies, there are false ceilings with cables running in them. The ceiling material appears to be a composite material (e.g. Asbestos/ACM)) rather than timber, though this could not be confirmed, and it was not possible to confirm that cables in the void are appropriately secured.</p> <p>See action 27</p>
<p>How are contractors fire risk controlled locally?</p>	<p>Understood that contractors are responsible for completing a hot works permit.</p>
<p>Is there up to date maintenance records for all fire systems on site?</p>	<p>To review the planned preventative maintenance (PPM) records, a desktop audit was completed with help from the Barbican Estates Property Services Team Manager.</p> <p>This involved checking the full records for a sample of buildings, and also random checks of several individual record types.</p> <p>The PPM audit maintenance checked</p>

records for the following fire safety systems (as relevant to this building): Fire Alarm, Dry Rising Mains, Fire Extinguishers, Back-up Generators, Lightning Protection, Sprinklers, Wet Risers, Wet Riser Pumps, Emergency Lighting, Fixed Electrical System, Portable Appliances, Smoke Ventilation, Gas, Firefighting Lifts, Fusible Link Fire Shutters, electric vehicle charging.

The PPM audit found Barbican Estates were able to demonstrate suitable maintenance regimes for the majority of systems, but also identified the following concerns:

- Fire alarm function tests are currently planned at 2-week intervals but sometimes the tests are not being completed due to resourcing issues. It is understood that this is under review and that COL will require a weekly testing regime.
- No 6-month Visual Inspection regime for Rising Mains
- Several months delay in obtaining certificates for Annual Dry Riser

	<p>Test, Lightning Protection, and sprinkler systems.</p> <ul style="list-style-type: none"> • It is understood that approximately 50% of the Barbicans fixed electrical systems (Distribution Boards etc) are considered “unsatisfactory”, and / or have not been electrically inspected for at least 5 years. It is understood that non-compliant systems are being rectified on an ongoing basis but that no formal remedial works programme is in place. • No PPM regime for most smoke control systems, i.e. Openable Vents (OVs) and Permanently Open Vents (POV) / smoke shafts. This is also covered by a separate action. <p>See Action 25</p>
<p>Is the fire logbook in accordance with col guidance policy</p>	<p>A logbook was found in the fire alarm cupboard in the main lobby area but it had not been used recently.</p>
<p>Additional question for Housing</p>	<p>Not at present but should be included in the void checks.</p>

<p>Is there evidence that when a new tenancy is commenced the operation of the smoke alarm is tested?</p> <p>The evidence should show:</p> <ul style="list-style-type: none"> • Date and time of test • Location of detector/s • Outcome of test <p>Name of person undertaking the test</p>	<p>For actions, refer to the Type 3 assessment.</p>
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Description of site

Cromwell Tower was completed in January 1973. It is a high-rise residential tower located on the Barbican Estate. The building is of "Brutalist" architecture and is Grade II* listed.

The building is of concrete construction (floors, stairways, and walls), and has a flat roof. The premises contains 108 flats and 3 penthouse maisonettes. Flats are arranged in three "wings", A, B & C.

There is an independent commercial unit located at the ground floor (a music shop).

Flats are accessed off internal lift lobbies. There are three lifts with one being a firefighting lift. The building has a single fire fighting/escape stair, and the stair is connected to the lift lobby on each floor via a small, ventilated stair lobby.

The building consists of 41 floors with a building height of approximately 108 m measured from ground to the bottom of the topmost occupied storey.

In summary the building comprises of the following:

- Roof level;
- L40 – L41: ventilation plant (L40) and lift machine room (L41);
- L1 – L39: Residential flats (3 flats on most levels) and duplex or triplex at the top level of each wing:

- Duplex on L39 and L40;
- Triplex on L37 – L39;
- Triplex on L35 – L37.

- Podium level: Circulation space; meeting room, old ventilation control room
- Mezzanine Level : Circulation space; cleaners cupboard
- L01 (Street level): reception lobby and main entrance; Lobby Porters office
- L02 – L03: Plant rooms/Switch Gear Rooms/"Garchey" Rooms /residents storage sheds area in addition to car park access;
- L04 Subway level. L04 which is known as the 'subway' is connected to Cromwell Tower via one of the plant rooms in L03. It contains services and extends throughout the Barbican Estate. The area is excluded from the scope of this FRA.

There is an electrical / telecoms riser (EDA) running up through the main stairway. Plant areas for the communal ventilation riser (ventilating bathrooms and kitchens) are accessed on the upper residential floors.

Risers (PDA) are located behind the bathrooms of the flats. These risers are accessed via concrete doors from the lift lobbies, or the main stairway.

Means of Escape:

The principal means of escape from the flats is via the main stair that descends to the Podium Level. Flats on level 6 upwards have secondary means of escape via external linking balconies and stairways descending to lower lift lobbies, or directly into the main escape stair. Flats on below level 6 have secondary means of escape via linking balconies and their neighbors flat into the main escape stair.

From sub-ground level, the means of escape is up a stairway to the reception lobby, with alternative means of escape from the resident storage areas via spiral staircases that ascend to street level.

The lift motor room is an inner room of the ventilation plant room beneath it, so is provided with an alternative means of escape via a fixed ladder which bypasses the ventilation room and descends directly into the main stairwell. An alternative means of escape is provided from the ventilation plant room via an external stairwell that descends to a lift lobby.

Use of Site

The building is a purpose-built general needs residential block of flats

Passive Fire Precautions

Flats entrance doors

Note - Flat entrance doors were not checked in the open position as part of the type 1 FRA. For more information pertaining to these doors refer to the Type 3 assessment.

The flat entrance doors appear to be of a consistent type. The Arup Fire Strategy states “*information on the existing doors for Cromwell Tower. However, based on the information provided on the document ‘The fire resistance performance of a single leaf single acting door set with side screen and over panel, when tested in accordance with BS 476: Part 20/22: 1987’ issued by Exova Warrington Fire on 02/06/2018, the fire doors in Shakespeare Tower have not satisfied the requirements for 30 minutes (EI30) class door*”.

Therefore, they are considered to be "Notional" fire doors (as defined by Fire Safety In Purpose Built Blocks of Flats).

It is understood that the flat entrance doors are fitted with spring-loaded central hinges but that these are no longer effective self-closing devices.

It is understood that City of London will be replacing all the flat entrance doors, including side panels and over panels with certified FD60S door sets.

Communal fire doors.

No information was provided for the communal doors to the stairway and stairway lobby, resident storage areas and also plant areas. These doors are considered to be notional fire doors.

It is understood that City of London will be replacing all the communal fire doors with certified fire door sets.

Construction of flats

The walls between the internally accessed flats and protected means of escape are a concrete/masonry wall which if imperforate should provide at least a notional 60 minutes fire resistance.

Concrete doors provide access to risers between the lift lobbies and the flat bathrooms / W/Cs. From sample checks it appears that works in the risers have disturbed the original compartmentation / fire stopping (appearing to be Asbestos) and in some cases to not appear to have been adequately fire stopped post works.

Communal Ventilation / Shunt Ducts

It is understood from the Arup Fire Strategy and from discussions with City of London, that the communal ventilation ductwork connecting the bathrooms and kitchen of the flats is a shunt duct system.

Protection of stairway.

The stair lobby and stairwell are a concrete/masonry wall which should provide at least a notional 60 minute fire resistance. There are two notional fire doors between the lift lobbies and the single communal/escape stairway.

Smoke ventilation.

The single communal/escape stairway is ventilated by two louvered doors at the head of the stair. There are also open vents at the base of the stair at podium level.

The small lobbies between the lift lobbies and main stairway are ventilated by a smoke shaft.

Other than at the top floor, the lift lobbies do not have permanent ventilation but can be ventilated for firefighting purposes via manually openable louvered vents up to level 5, or by opening the doors from the escape balconies above level 6. The louvered vents are opened via winding handles, the escape doors by striking off the heads of cast securing bolts. In the top lift lobby, there is a permanently open vent above the door to the escape stair.

It is believed that the architects fire strategy at the time of construction would have justified the lack of permanently open ventilation of the lift lobbies (for escape purposes) by using the secondary means of escape that allow residents to bypass the lift lobbies in an evacuation as a compensatory feature.

Facilities for fire fighters

Firefighting Access

The main entrance to the building is accessed from Beech Street. It also acts as the main firefighting access point into the building. It should however be noted that whilst fire service access to the building is considered to be at Street Level (providing access to the firefighting lift), the firefighting stair can only be accessed at the podium level. Therefore, fire service will enter the building at Beech Street level via the reception, walk up the internal open stair (which is separated from the residential levels above) and transfer to the firefighting stair at podium level.

Firefighters would be met on site by the 24/7 Lobby Porters, who would facilitate access, and provided information as below.

Site Information / Premises Information Box (PIB)

A cupboard behind the main reception desk contains labelled keys and a folder containing site information, emergency contact numbers, site and building layout plans and a Vulnerability List. This would be provided to the Fire Brigade on attendance by the 24/7 Lobby Porters.

Similar information is also provided in a Premises Information Box (labelled "Firemans Plans") located in the stairway leading down from the main reception.

Wet Rising Main

The tower is fitted with a Wet Rising Main with outlets in each lift lobby and in the plant rooms. The pump room is located at level 03 and contains an electric Duty Pump and Diesel back up.

"Firefighting Lift"

One lift is signed as a "Fire Fighting Lift" – The Arup Fire Strategy states that one lift is a firefighting lift installed in accordance with BS 5588-5:1986 (the strategy states this was confirmed by City of London).

However, on inspection the lift does not have an obvious escape hatch (a key feature of a fire fighting lift). It is understood from discussions with City of London that the lift was upgraded toward fire fighting standards (i.e. BS5588-5), but that full compliance could not be achieved.

The Arup Fire Strategy also states that *“the existing firefighting lift and other lifts have been identified with a programming issue which will not allow it to ground upon detection of a fire. The firefighting lift will only ground upon arrival of the fire service when they manually activate the lift to ground. This is not in line with the current guidance”*. It is understood that LFB are aware of this issue.

It is understood that City of London are planning a lift replacement project.

Firefighters information signage

Instructions pertaining to the lift lobby smoke ventilation are provided in the lift cars and on the doors to the shafts at the lower levels.

Floor level signs are provided in the stairway and lift lobbies, but these do not comply with current guidance i.e. Approved Document B – Wayfinding signage for the fire service.

Fire Brigade Liaison

It is understood that LFB regularly undertake familiarisation visits of the Barbican Estate – Information provided by CoL – states “Pump 6 exercise at Cromwell Tower in Feb 2018. Most recent LFB (inspection) of all 3 towers Aug 2021. Crews regularly on the estate”.

Fire Safety Signage

In some areas, particularly in the ancillary accommodation, fire safety escape signage is considered to be inadequate.

This had previously been identified and a “Barbican Fire Sign Strategy” was completed by BB7 in October 2021. This detailed strategy highlights the deficiencies and provides recommendations for new signage.

Active Fire System

Fire Alarms

In accordance with fire safety guidance, as the building is a purpose-built block of flats designed to support a stay put evacuation strategy, a communal fire alarm system is not provided in the residential areas.

An L5 fire alarm system (as defined by BS5839 Part 1) covers the ancillary accommodation i.e. plant rooms, ventilation plant risers and resident storage areas. The

fire alarm panel is located within a cupboard in the main reception and monitored by the 24/7 Lobby Porters.

Fire Shutters

There are automatic fire shutters activated by fusible links protecting the lift lobbies from the resident storage / plant areas and carpark.

Sprinkler System

A sprinkler system is fitted in the car park areas but is outside the scope of this report.

Emergency Lighting (EML)

Emergency lighting is provided in most areas via “standby lighting” with a backup supply powered by a generator. Self-contained emergency lighting is also provided in some plant areas.

The adequacy of the emergency lighting could not be confirmed.

Fire Ignition Sources

Within the common parts the most significant ignition sources are the electrics/cabling located within the service risers. Providing the fixed wiring and any portable appliances in the risers is appropriately maintained and the risers are kept sterile this is a considered a tolerable risk.

In the ancillary accommodation are the electrical and plant / machinery installations. Providing the fixed wiring, any portable appliances and plant/machinery is appropriately maintained, and the risers are kept sterile this is a considered a tolerable risk.

Fire Training

It is understood that the Estates Manager and staff in the estates team are required to complete CoL’s mandatory fire safety training which includes the use of fire extinguishers.

It is understood that Lobby Porters also complete Fire Extinguisher Training and mandatory city fire training on “City Learning”.

Make an assessment of the fire risk

Likelihood of fire occurring at the property

	Medium	
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Likelihood of fire spreading through the building

	Medium	
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Likelihood of loss of life due to fire

	Medium	
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Formulate and document an action plan

If it is considered that the fire risk and existing fire precautions are such that no improvements are necessary, this should be recorded within the fire risk assessment. The action plan should address both physical fire precautions, managerial issues and should normally prioritise measures so that the appropriate effort and urgency is clear. The measures within the action plan should both practically implement and maintain, taking into account the nature of the building and its occupants. With the best solution to bring about improvement with a possible pragmatic solution.

CoL Specific Hazard identification and Action plan template

Ref No. Location:	Observations	Recommended further action	Risk Rating Low Medium High	Priority Level (please refer to table 1)	Action by Whom & When (Person task with action by premise controller)	Date Completed
1.	LO2 Caretakers Room – A damaged light switch is a potential fire safety and health & safety issue.	The light switch should be repaired.	Medium	C		
2.	Several concrete access doors to the risers which contain services that pass into the bathroom of the flats were found to have been left open and/or have faulty locks. This compromises the compartmentation between the risers and the lift lobbies.	Ensure all bathroom riser access doors are kept locked shut and any broken locks are repaired/replaced as required. These doors should be routinely monitored to ensure that they are kept locked shut.	Medium	C		
3.	Several fire doors to the stairway lobby / stairway were found to have ineffective self-closers.	Ensure the fire doors to the stairway lobbies/ stairs are checked and the doors are eased and adjusted to	Low	C		

	Faulty doors were noted in the following levels – ??,??,?? (door warped),??,??,??,?,? & ?.	ensure they fully self-close into their frames when released from any angle.				
4.	Much of the emergency lighting in the building is provided by “Standby Lighting” (as defined by BS5266 Part 1) with an alternative power supply provide by a generator. It was not possible to confirm the full locations and adequacy of these installations as part of the fire risk assessment survey.	<p>It is understood that CoL have commissioned an emergency lighting survey, but no further details have been provided–</p> <p>It is advised that a site wide survey should be undertaken of the emergency lighting systems in the building (and along external means of escape) by a competent person, to assess their adequacy with a “gap analysis” between the as installed standards and those required by BS5266 Part 1 2016.</p> <p>Any installations or enhancements or replacements required should be in accordance with BS5266 Part 1 2016.</p>	Medium	D		
5.	The Arup Fire strategy states that <i>“It has been confirmed by BE that there is no emergency lighting within the storage levels”</i> .	Ensure emergency lighting is installed in the resident storage areas in compliance with BS5266 Part 1 2016.	Medium	D		

	This appears to be the case based on the inspection of the areas concerned.					
6.	<p>The secondary means of escape from several areas are not considered to be adequately signed – these include the tenant store areas via the spiral stairways (signage in the corridors and stairways is inadequate), ventilation plant room (via external stairway into lower lift lobby) and lift motor room (via door to a fixed ladder). It is understood that fire safety signage is under review by CoL. Thumb turn door releases are also not signed.</p>	<p>Ensure that as part of the fire signage project, the escape signage in ancillary areas including the plant rooms and resident storage areas is improved in compliance with BS 5499 Part 4.</p> <p>Thumb turn door releases should also be clearly signed (preferably with luminous signs) to indicate the mode of operation.</p>	Medium	D		
7.	<p>The fire exit at top of spiral escape stair leading up from the corridor containing switch gear rooms and resident stores is hard to open (although does open).</p>	<p>Adjust the door/lock to ensure the door can easily be opened in an emergency.</p>	Medium	B		
8.	<p>On levels L1-L5 the secondary means of escape from flats passes through the neighbouring</p>	<p>Ideally the escape routes via the flats on levels L1-L5 should be periodically</p>	Medium	D		

	<p>flat. CoL has confirmed that a standard letter is periodically sent to residents on these floors explaining the escape routes and how they should be maintained. However, as these are leasehold flats these escape routes are not inspected.</p>	<p>monitored to provide assurance that they are viable.</p> <p>If this is not possible in leasehold flats, and it cannot be assured that the exit routes are viable, then an alternative measure(s) may need to be implemented to provide an equivalent level of safety.</p> <p>Also refer to the Arup Fire Strategy Report.</p>				
9.	<p>It could not be confirmed if the fire exit doors from the ancillary accommodation (plant rooms and resident storage areas which are seldom used, are appropriately inspected).</p>	<p>The operation of all emergency and panic escape devices, especially on external doors not used for other purposes, should be checked once a month for ease of operation and opening of the door. Weather conditions can affect the door and frame relationship, and therefore the ease of operation of escape devices.</p>	Medium	C		
10.	<p>A metal ladder and vacuum is stored in the electric cupboard off reception. This could cause damage to the electrics and / arcing.</p>	<p>It is advised that electric cupboards are kept free of storage.</p>	Low	B		
11.	<p>A Mobility Scooter was seen under charge in one of the lift lobbies. This was reported to CoL during the assessment.</p>	<p>Ensure that battery powered vehicles – i.e. Mobility Scooters, scooters and bicycles are not stored or charged in communal areas.</p>	Medium	B		

	Battery powered vehicles such as Mobility Scooters, bicycles and scooters can be subject to intense and long burning fires, particularly when Lithium Ion batteries are used and they are under charge, and as such should not be stored or charged in communal means of escape.	It is recommended that power sockets in the lift lobbies are replaced with those incorporating a lock so they can only be used by authorised persons such as cleaners.				
12.	Battery Powered vehicles (Mobility Scooters, scooters, bicycles and cars/vans) are becoming more common and have caused several fires in residential buildings.	It is advised that CoL develop a fire safety policy regarding electric vehicles to ensure that they are stored and charged in appropriate areas and charging facilities are appropriately maintained. The policy should also consider appropriate fire suppression / extinguishing systems.	Advise	Advise		
13.	<p>Whilst some appliances have up to date PAT labels, some appliances checked have no labels or what appear to be out of date labels – this included –</p> <ul style="list-style-type: none"> • L02 Caretakers room – battery chargers, vacuum cleaner. • Reception fire alarm cupboard – vacuum cleaner (label unreadable) 	<p>Confirm that all portable appliances are subject to an appropriate inspection regime in accordance with CoL policy and HSE guidance.</p> <p>Reception desk – cables should be rationalised / tidied up and ensure appliances have been PAT tested.</p>	Medium	D		

	<ul style="list-style-type: none"> • Mezzanine – cleaners equipment – no obvious PAT labels or dated August 2020. • Reception desk – poor cable management 					
14.	There are what appear to be redundant white goods stored in Switch Gear 3A.	<p>It is advised that redundant appliances should be removed from site and appropriately disposed of to minimise any unnecessary fire loading.</p> <p>Switch gear room should not be used for storage.</p>	Low	D		
15.	There was no evidence to confirm that 3 rd party telecoms equipment noted in the Ventilation Plant areas and stairway electrical riser (EDA) is under an appropriate inspection and test regime	CoL should have arrangements in place to confirm that where 3 rd parties (e.g. Telecoms) have electrical equipment (or other work equipment) installed within the building, that the equipment is subject to an appropriate maintenance regime.	Low	D		
16.	In the “Garchey” waste disposal system room is an inner room of the Wet Riser pump room. There is automatic detection in the pump room but no obvious sounders / beacons in this area. The connecting door has no vision panel.	In the short term a management arrangement should be put in place to mitigate the inner room condition and lack of alarm sounders. E.g. No lone working, keep Garchey Room door open whilst being worked in.	Medium	D		

		In the longer term, Alarm sounders and beacons (e.g. Visual Alarm Devices “VADS”) should be installed in the Pump Room Area to provide early warning to those working in the area that their escape route may be compromised.				
17.	The Fire Action Notices had not been completed with the site address. This information is useful to visitors who may need to dial 999.	It is recommended that the site address is clearly written on the FAN.	Low	D		
18.	The external sides of the fire exits from the main stair and from the resident store areas (spiral stairs) are not signed Fire Exit Keep Clear.	The outside of these exit should be signed “Fire Exit Keep Clear”.	Low	D		
19.	Floor level signs are available in the stairway and the lift lobbies (above the lifts) but they do not meet current standards – also flat numbering is not included on these signs.	As part of the signage project, it is advised that floor level number and flat number signage is brought in line with current standards i.e. Approved Document B 2019 ed. incorporating 2020 amendments – “Wayfinding signage for the fire service”. The requirement is: To assist the fire service to identify each floor in a block of flats with a top	Low	E		

		<p>storey more than 11m above ground level floor identification signs and flat indicator signs should be provided.</p> <p>The floor identification signs should meet all of the following conditions.</p> <p>a. The signs should be located on every landing of a protected stairway and every protected corridor/lobby (or open access balcony) into which a firefighting lift opens.</p> <p>b. The text should be in sans serif typeface with a letter height of at least 50mm. The height of the numeral that designates the floor number should be at least 75mm.</p> <p>c. The signs should be visible from the top step of a firefighting stair and, where possible, from inside a firefighting lift when the lift car doors open.</p> <p>d. The signs should be mounted between 1.7m and 2m above floor level and, as far as practicable, all the signs should be mounted at the same height.</p> <p>e. The text should be on a contrasting background, easily legible and readable in low level lighting conditions or when illuminated with a torch.</p>				
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20.	<p>L39 Lift Lobby Ventilation</p> <p>The lift lobby is ventilated by a permanently open vent (POV) above the exit door to the stairway. It appears that this vent has been partially blocked up. It is understood that the vent is necessary as this is the top accommodation floor, so cannot be ventilated by opening balcony escape doors.</p> <p>There is only one flat opening lift lobby at this level so the risk is considered low and should be partially mitigated by the installation of an FD60S self-closing flat entrance door.</p>	<p>It is advised that the original ventilation to the top accommodation floor is reinstated to return to the original standard of construction.</p> <p>If a POV is deemed undesirable, then consider the viability of installing an automatic opening vent (AOV) which would only open on activation of automatic smoke detection in the flat access lobby.</p>	Low	E		
21.	<p>In general, the smoke vents, grills and louvres etc. appear to be contaminated by an historical accumulation of dust / exhaust fumes etc. It is not clear to what extent they have been cleaned / maintained.</p>	<p>It is advised that CoL commission an expert appraisal of the smoke control systems (smoke shaft(s) and permanently open vents (POVs) to review their function, adequacy, condition/ status, and their planned preventative maintenance regime.</p>	Low	E		
22.	<p>It was confirmed that there is no current flat entrance door inspection regime. The Fire Safety Act 2022 has confirmed that Flat Entrance Doors fall within the scope of the</p>	<p>Ensure that a long-term programme is in place for the completion of:</p> <ul style="list-style-type: none"> quarterly communal fire door inspections, and 	Low	D		

	Regulatory Reform (Fire Safety) Order 2005.	<ul style="list-style-type: none"> annual flat entrance door inspections (where leaseholder cooperation will need to be sought) <p>in accordance with the Fire Safety (England) Regulations 2022, which come into effect January 2023 and any associated guidance.</p> <p>Inspections should ensure that the doors remain in good condition and an effective self-closer is in place.</p>				
23.	<p>Based on information provided the flat entrance door are considered at best to be notional fire doors, with no effective self-closing device fitted. It was not possible to confirm the fire resistance of top and side panels, but they do not appear to be fitted with fire resisting letter boxes. Therefore, the flat entrance doors to not comply with current standards and guidance.</p> <p>It is understood that a programme is in place to replace all the flat entrance doors including top and side panels with certified FD60S door sets</p>	<p>Flat entrance doors are to be renewed as part of CoL's door replacement programme which is replacing the doors with FD60S fire door sets.</p> <p>As an interim measure, CoL should at least ensure that all existing notional flat entrance doors self-close by installing overhead self-closers the flat entrance doors.</p>	Medium	E		

	fitted with external overhead self-closing devices.					
24.	<p>Each flat has three cupboards accessed directly from the lift lobby – these cupboards contain electric meters (top cupboard), post (middle cupboard) and waste materials (bottom cupboard). Several doors to the cupboards were found to have been left open.</p> <p>It is understood that the cupboard doors form part of the compartmentation of the flat and will be replaced as part of the flat entrance door project.</p>	<p>Until these cupboards are replaced as part of the flat entrance door replacement program, ensure that these cupboards are routinely monitored to ensure that they are kept closed.</p>	Low	C		
25.	<p>The PPM audit found Barbican Estates were able to demonstrate suitable maintenance regimes for the majority of systems, but also identified the following concerns:</p> <ul style="list-style-type: none"> • No 6-month Visual Inspection regime for Rising Mains • Several months delay in obtaining certificates for Annual Dry Riser Test, 	<p>Barbican Estates should review their planned preventative maintenance arrangements to ensure suitable cleaning, inspection, test and maintenance (as relevant) regimes are in place for the following:</p> <ul style="list-style-type: none"> • Weekly Fire Alarm Tests (per BS5839 Part1) • Six-monthly visual inspection of Rising Mains (per BS9990) • It is advised that a PPM regime is developed for Smoke control 	Medium	C		

	<p>Lightning Protection, and sprinkler systems.</p> <ul style="list-style-type: none"> • It is understood that approximately 50% of the Barbicans fixed electrical systems (Distribution Boards etc) are considered “unsatisfactory”, and / or have not been electrically inspected for at least 5 years. It is understood that non-compliant systems are being rectified on an ongoing basis but that no formal remedial works programme is in place. • No PPM regime for most smoke control systems, i.e. Openable Vents (OVs) and Permanently Open Vents (POV) / smoke shafts. This is also covered by a separate action. 	<p>systems i.e. Permanently Open Vents (POV) / smoke shafts</p> <ul style="list-style-type: none"> • It is advised that a programme of remedial works is developed for fixed electrical systems that are considered to be unsatisfactory • It is advised that Barbican Estates liaise with their suppliers to ensure PPM certificates are provided in a timely manner, in order to demonstrate compliance to relevant stakeholders. 				
26.	<p>In several of the bathroom risers (PDA) it was noted that plumbing works have penetrated the compartmentation with no, or</p>	<p>Ensure that compartmentation defects identified in the risers are sealed/fire stopped with appropriate proprietary substances in accordance with the remedial works specification so that</p>	Medium	E		

	<p>inadequate remedial fire stopping works completed. (Note Col confirmed that where recent and ongoing plumbing works take place, the penetrations are sealed with double plaster board to achieve 60 minutes fire resistance).</p> <p>There also appear to be some inadequately fire stopped service penetrations in the stairway riser (EDA) and in the electrical cupboards at Podium Level at levels 01,02 & 03.</p> <p>It is understood that City of London have previously identified the compartmentation defects and have commissioned a specialist to complete a compartmentation survey at Shakespeare Tower (of similar design) to provide a specification for remedial works.</p>	<p>there is a minimum of 60 minutes fire separation between the flats and the riser.</p> <p>This should include bathroom risers, stairway riser and electrical cupboards located on the Podium levels and levels 01-03.</p>				
27.	<p>Ceiling Voids</p> <p>In some areas of the towers e.g. stairway landings, lower level lift lobbies, there are false ceilings with cables running in them. The</p>	<p>CoL should confirm that where there are any such ceilings:</p> <ul style="list-style-type: none"> • The ceiling material is non-combustible • The paint is rated B-s3, d2 for surface spread of flame. 	Low	D		

	ceiling material appears to be a composite material (e.g. Asbestos/ACM)) rather than timber, though this could not be confirmed, and it was not possible to confirm that cables in the void are appropriately secured.	<ul style="list-style-type: none"> Cables are suitably secured with fire rated fixings. 				
28.	The Fire Safety (England) Regulations 2022 place additional requirements on CoL as a Responsible Person under the Regulatory Reform (Fire Safety) Order 2005.	<p>CoL should ensure that they have suitable arrangements in place to discharge their responsibilities under the Fire Safety (England) Regulations 2022.</p> <p>The regulations will come into force on 23 January 2023 following the publication of supporting guidance which is due later in 2022.</p> <p>In summary –</p> <p>For high-rise residential buildings (a multi-occupied residential building at least 18 metres in height or 7 or more storeys), responsible persons must:</p> <ul style="list-style-type: none"> share electronically with their local fire and rescue service (FRS) information about the building's external wall system and provide the FRS 	Medium	D		

		<p>with electronic copies of floor plans and building plans for the building</p> <ul style="list-style-type: none"> • keep hard copies of the building's floor plans, in addition to a single page orientation plan of the building, and the name and UK contact details of the responsible person in a secure information box which is accessible by firefighters • install wayfinding signage in all high-rise buildings which is visible in low light conditions • establish a minimum of monthly checks on lifts which are for the use of firefighters in high-rise residential buildings and on essential pieces of firefighting equipment • inform the FRS if a lift used by firefighters or one of the pieces of firefighting equipment is out of order for longer than 24 hours <p>For multi-occupied residential buildings over 11 metres in height, responsible persons must:</p> <ul style="list-style-type: none"> • undertake quarterly checks on all communal fire doors 				
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		<p>and annual checks on flat entrance doors</p> <p>In all multi-occupied residential buildings, responsible persons must:</p> <ul style="list-style-type: none">• provide residents with relevant fire safety instructions and information about the importance of fire doors <p>The Fire Safety Act (FSA) clarifies the scope of the Fire Safety Order to make clear it applies to the structure, external walls (including cladding and balconies) and individual flat entrance doors between domestic premises and the common parts.</p>				
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Action time frame in accordance with CoL service level agreements

Table One

<i>Priorities for remedial action listed below;</i>	<i>Recommend priority code & time frame</i>	
Priority Action AA	Immediate action taken whilst on site	(P1) 2 hour attendance
Priority Action A	Immediate action required	(P2) 24 Hours
Priority Action B	Action required in the short term	(P3) 4 Days
Priority Action C	Action required in the short term	(P4) 28 Days
Priority Action D	Remedial action required in the long term	3 Months
Priority Action E	Action to be consider when refurbishing	Project Planning Stage
Priority Action H/S	Health & Safety Information	(P2) Action 24 hrs.
P3A over weekend when attendance will wait until Monday for attendance not warranting a 24hr P2		

Additional Comments to the assessment:

Fire Risk Assessment reviews (CoL use only)

This Fire Risk Assessment should be reviewed annually and whenever there is a material change in the use of the premises or part of the premises (including numbers of occupants) or when significant structural or layout changes to the premises are proposed or carried out. The table below is provided for the 'Responsible Person' at the premises to maintain a record of reviews and provides space for simple comments. If the review indicates significant change then a new complete Fire Risk Assessment by our professional assessment providers should be carried out and fully documented.

Date	Reason for review	Results / Comments	Name, Position & Signature

Appendix One

Pre-Survey Questionnaire

Information Required Pre-Site Visit (21 days)

<i>List of restrictions applied by Building Control, Planning & Heritage interest impinging on the risk assessment.</i>	Grade II* listed.
<i>Salvage and Business Continuity of the building</i>	See Corporate Policies
<i>Are there inductions for staff and contractors?</i>	For CoL staff and contractors – Yes. For resident contractors – Not known.
<i>Structural alteration of the property, any project works being undertaken at the time of the assessment which could impinge on the assessment decision.</i>	Fire Signage project ongoing across the estate. Jason Hayes PM Residents Private Home Improvements and Alterations. Ongoing. Approval process in place. https://www.cityoflondon.gov.uk/services/barbican-estate/barbican-estate-home-improvements
<i>Change of use of the property/process undertaken.</i>	Non applicable
<i>Planning permission for new structures nearby.</i>	Nearby? Not known. CoL planning portal
<i>Structural use of decorative timber cladding/aluminum.</i>	No
<i>Change in use of activities of the premises. [see above]</i>	Non applicable

<i>Alcohol use on site by staff off duty or visitors.</i>	CoL policies followed. Residents and their visitors. Not Known
<i>Unfamiliar surrounding for staff or visitors.</i>	Residents and their visitors. Not Known
<i>Number of disabilities of staff/visitors.</i>	Not known. Currently carrying out an estate wide PRM exercise. We still won't know about resident visitors.
<i>Surrounding risks which have the likelihood to affect business continuity of the premises.</i>	Non Applicable
<i>Building Fire Strategy for the site:</i> <ul style="list-style-type: none"> • <i>Means of Warning and Escape</i> • <i>Emergency lighting and Signature</i> • <i>Internal Fire Spread (lining)</i> • <i>External Fire Spread (structure)</i> • <i>Fire Service Access</i> 	
<i>Fire Management Plan covering:</i> <ul style="list-style-type: none"> • <i>How you manage fire safety day-to-day</i> • <i>PEEPS, particularly in housing the procedures for residents to follow in the event of Fire (stay put policy)</i> • <i>Number of Safety/Fire Marshall to cover site</i> • <i>Method of calling the Fire Service</i> • <i>Full site evacuation plans, gas escape, planned and unplanned power failures</i> • <i>Route for emergency service personnel and vehicles to the premise's day & night with the expected pre-determined attendance time from local authority fire</i> 	Sam Fitness completing for the estate. PRMS being identified currently. Stay Put policy No gas on site ARCGIS is complete for the estate

<i>station and works fire service i.e. Heathrow Animal Reception Centre. (HARC).</i>	
<p><i>Security onsite covering:</i></p> <ul style="list-style-type: none"> • <i>anti-social behaviour</i> • <i>Protection from the threat of arson</i> • <i>CCTV-log</i> 	<p>24/7 Lobby Porter 24/7 Duty manager Monday to Friday 8.30 – 4 Cleaner</p> <p>CCTV present</p>
<i>Secondary/Life Safety power generation on site.</i>	Generators for lift and CP lighting and ventilation. Issue with tower lifts currently. Please see SM for more details. CoL Fire Safety and LFB aware
<p><i>Permit to work system:</i></p> <ul style="list-style-type: none"> • <i>Hot work permits to (CoL guidance note)</i> • <i>Roof Access</i> • <i>Fire Stopping Register for (internal & external contractor works/repairs)</i> • <i>Hazards introduced by contractors (Acetylene cutting is not permitted on sites).</i> 	<p>For CoL contractors only.</p> <p>Y N but access restricted by key log N ?</p>
<i>Occupants in satellite buildings under the control of the site.</i>	Non applicable
<p><i>Commercial Shop Units to detail areas of:</i></p> <ul style="list-style-type: none"> • <i>Location</i> • <i>Floor area</i> • <i>Activities undertaken</i> 	<p>Music Shop at the base of Cromwell Tower Street level</p>
<i>Listed building (grade 1 or 2 or code ABC)?</i>	Grade II*

<p><i>Entertainment licences' in force</i></p> <ul style="list-style-type: none"> <i>Seasonal activity undertaken by the site which affects the fire risk assessment</i> 	Non Applicable
<p><i>Fire Detection & Alarm Systems installed. Type and description including operation, fire detection and alarm interfaces with zone plan.</i></p>	LD3 covering 02 and 03 stores, 02 switch rooms, all roof ventilation plant rooms. Break glass and detectors.
<p><i>List of enforcement/deficiency actions out-standing matters.</i></p>	No
<p><i>AFA automatic fire alarms, AFA History of calls in rolling 12-month period of unwanted fire signals.</i></p>	No History not kept
<p><i>Salvage /disaster recovery plans.</i></p>	See Corporate policies
<p><i>Floor marking of wheelchairs in seating areas.</i></p>	Non applicable. Residential
<p><i>Previous history of fires on the site over 2-year period</i></p>	None
<p><i>Fire Safety arrangements which are in place including compromised fire safety due to external safety related event occurring (Terrorist Marauding) improvised devices.</i></p>	<i>Incident Alarm System for use in the event of a terrorist incident. Advice if activated is to go to bathrooms and wait for the all clear.</i>
<p><i>Fire Assembly Points suitable with alternative secondary available.</i></p>	Residential. Stay Put.
<p><i>Firefighting systems incorporated within the premises e.g. Pressurised staircases, Fixed installation water or gas systems, firefighting mains, Protection for Fire-Fighters</i></p>	No

<i>COMAH sites within 800m</i>	Not known
<i>COSHH cabinet on site Cleaning products</i>	Yes
<i>Acetylene cylinders used within 250M</i>	Not known

Annex A – Actions outstanding from previous fire risk assessment

<p><i>Ref Number:</i></p> <p><i>Location:</i></p>	<p><i>Previous/Outstanding Action</i></p>	<p><i>Turner & Townsend Comments</i></p>
<p>8.5</p>	<p>It was noted that In some instances discarded trade materials and general waste has been allowed to accumulate In riser cupboards. Implement robust management arrangements to ensure all such areas are maintained free from Inappropriate storage.</p>	<p>This appeared to be satisfactory this visit. The risers inspected were found to be clear of any significant storage of combustible materials.</p>
<p>13.1</p>	<p>Due to the survey being undertaken during daylight hours it was not possible to determine If an adequate provision of emergency lighting exists throughout the premises. A survey should be undertaken by a competent person; with any identified issues being rectified to ensure the system complies with BS 5266.</p>	<p>It was not possible to confirm the adequacy of the emergency lighting, particularly the standby lighting.</p> <p>See Action 4 in this FRA.</p>
<p>14.4</p>	<p>It was noted that in a number of instances what appears to have been unauthorised structural alterations have been undertaken by/on behalf of residents. This has resulted In compromised standards of compartmentation between Individual flats and the communal risers.</p>	<p>This is still the same. In several of the bathroom risers it was noted that plumbing works have penetrated the compartmentation with no, or inadequate remedial fire stopping works completed.</p> <p>It is understood that City of London have previously identified the compartmentation defects and have commissioned a specialist to complete a compartmentation survey at Shakespear Tower (of similar design) to provide a specification for remedial works.</p> <p>See Action 26 in this FRA.</p>

<p>15.1&15.2</p>	<p>The flat entrance door is consistent with those throughout the block. It does not comply with current standards. • It appears to be of substantial construction, with substantial rebates, hinges x3 do not appear to be of fire resisting standard. The centre hinge appears to be of spring loaded design, to assist with door closing; however it was noted that this arrangement did not result in the door self-closing effectively. Due to the opportunity for means of escape in 2 directions; this situation is considered acceptable. Consideration should be given to upgrading/replacing doors on the means of escape routes; to current standards as part of any future refurbishment program. Consideration should be given to implementing a robust program of testing and servicing for spring loaded hinges; to ensure final exit doors close effectively.</p>	<p>This is still the same. City of London has confirmed that all flat entrance doors will be replaced.</p> <p>See Action 23 in this FRA.</p>
<p>17.2</p>	<p>It was noted that numerous doors to electrical intakes, service risers, plant rooms, stores and similar; within escape routes are not provided with 'fire door keep locked shut' signs. • Lobby doors are not provided with 'fire door keep shut signs'. • Final exit doors from alternative means of escapes, do not display 'fire exit keep clear' signs. • 'Do not use lift in case of fire' signs are not displayed adjacent to lift enclosures. Ensure appropriate signs are displayed.</p>	<p>In some areas, particularly in the ancillary accommodation, fire safety escape signage is considered to be inadequate.</p> <p>This had previously been identified and a “Barbican Fire Sign Strategy” was completed by BB7 in October 2021. This detailed strategy highlights the deficiencies and provides recommendations for new signage.</p>
<p>17.5</p>	<p>Fire action notices are inconsistently displayed in communal areas and the guidance is ambiguous in respect of a 'stay put' evacuation strategy. Consideration should be given to replacing this signage with more definitive instructions; displayed in a consistent manner, including adjacent to MCPs where relevant.</p>	<p>Fire action notices had been replaced but the address details section had not been completed.</p> <p>See action 17 in this FRA.</p>

19.4	It was noted that portable fire extinguishers are provided within communal areas. Typically fire extinguishers are not provided within this type of property as residents are unlikely to have been appropriately trained. Consideration should be given to their removal.	Fire extinguishers had been removed from the communal areas.
20.2	As part of the fire risk assessment process a documentation audit was undertaken in respect of the specific premises. The brief was to randomly sample 6 categories from a detailed list. In this instance the only records available at the Estate Office were as follows; • Whilst it is evident that Allied Protection are maintaining fire alarm systems; contractors are not updating documented records. • Records were not available to evidence the recently implemented program of fire door inspections. • Fire stopping registers are not in place; this has specific relevance in respect of PDA's & EDA's. • Portable firefighting equipment is out of test date; this situation is expected to be resolved in response to relevant guidance provided elsewhere in this report. • Records of fire brigade operation Priority C Priority D Priority C 12 attendances are not maintained. It is recommended that robust arrangements be implemented to ensure the requirements of Col Guidance Note on Fire Log Books on Col premises are achieved.	See action 25 in this FRA
20.6	The emergency services box, contained; 1) Estate block plan map. 2) Useful telephone numbers 11st. 3) Block plan. Consideration should be given to liaising with London Fire Brigade to rationalise/standardise the information contained within the premises information box	The information provided appears to be reasonable and now includes a Vulnerability List. It is understood that LFB are satisfied with the information provided.

22.4	It was noted that portable fire extinguishers within communal areas and plant rooms (provided for use by competent persons) have not been subject to servicing within the past 12 months. Subject to comments In 19.4, ensure all such equipment is robustly maintained	City of London were completing a Fire Extinguisher survey, and ongoing servicing programme at the time of this assessment.
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Annex B – Unintentional fires during the last two years

No known unintentional fires during the last two years.

Annex C – maintenance records of fire systems

Fire Safety Documentation		
Documentation	Available to view	Evidence viewed
Fire Safety Strategy Report	Yes	A retrospective Fire Strategy has been completed by Arup – see Cromwell Tower - Fire Strategy Report dated 16th February 2022 and available from Col.
Updated Fire Safety Strategy Report and/or Fire Safety Strategy Technical note (reflecting any changes, refurbishments)	No	
Fire Compartmentation Drawings	Yes	See the aforementioned Arup Fire Strategy.
Fire Risk Assessment report	Yes	The previous FRA was undertaken by Frankham RMS in January 2018.
Building (floor plan) drawings	Yes	Available in the cupboard behind reception, and in the Arup Fire Strategy.
BS 9999:2017 – Fire safety in the design, management and use of buildings. Code of practice	N/A	BS 9999 is not applicable to residential blocks of flats.
BS 9997:2019 Fire Risk Management system.	N/A	

Third-Party Statutory Examination/Testing Certification		
Equipment	Available to view	Contractor / Issue date(s) / Frequency
Automatic Fire detection and alarm	Yes	L5 Communal Fire Alarm installed. Periodic maintenance in accordance with BS5839 Part 1. See Action 25
Emergency and exit lighting	Yes	Annual duration testing. Back up Generator. Periodic testing in accordance with BS5266 Part 1
Fire extinguishers and fire blankets	Yes	The fire extinguishers should be maintained annually. Ongoing renewal and maintenance plan demonstrated.
Sprinklers	No	See action 25.
Fire dampers	N/A	No fire dampers identified
Gas suppressant systems	N/A	No gas suppression systems in the CoL controlled areas of the building – CO2 systems are under 3 rd party control.
Lightning protection system (LP)	Yes	Annual Lightning Protection Test and Inspection.
Gas heating/boiler plant safety checks	N/A	No communal gas system.
Gas cooking appliances	N/A	No gas cooking facilities within the common areas.
Fixed mains electrical installation	No	5-Year Fixed Electrical Inspection. See Action 25
Portable appliance testing	No	Portable Appliance Testing (PAT) in accordance with CoL policy and HSE guidance. Some appliances had no evidence of an up-to-date PAT. See Actions 12 & 14.

Fire rated shutters	Yes	Periodic Inspection of automatic fusible link fire shutters.
Evacuation aids	N/A	There are no evacuation aids.
Firefighter's Lifts	Yes	Per BS9999 and Fire Safety Act 2022 –Monthly Checks & Testing, 6-Monthly and Annual Inspection.
AOC control system	N/A	
Fire Hydrant testing (within the curtilage of the premises)	N/A	The hydrants are located on the public highway
Wet risers	No	6- Monthly Visual Inspection and Annual Pressure Test. No 6M Visual Inspection Record– See Action
Dry risers	N/A	
In-House Documentation		
Equipment	Available to view	Who by / Date(s) / Frequency
Fire alarm call point activations	Yes	2 Weekly Call Point Activation per BS5839 Part 1.
Internal fire rated doors	No	Per Fire Safety Act 2022 - Quarterly Inspection of communal fire doors and Annual Inspection of flat entrance doors.
Fire exit doors	Yes	3-Monthly check of fire exit doors, especially on external doors not used for other purpose.
Emergency lighting	Yes	3-Monthly 1 hour duration emergency lighting test.
Fire extinguishers	Yes	Fire extinguishers Routine check (location, pressure gauge and tags)

Fire sprinklers pump set weekly checks	Yes	PPM provided.
Fire dampers	N/A	No dampers identified with the building
Fire evacuation drills	N/A	Not applicable in a residential block of flats
Evacuation aids	N/A	Not applicable in a residential block of flats
Fire Safety Training Records		
Equipment	Available to view	Evidence
Duty Holder – Fire (Scotland) Act 2005 duties and responsibilities	N/A	
Competent Person – Fire (Scotland) Act 2005 duties and responsibilities	N/A	
Fire Incident Controller	N/A	
Fire Warden / Marshal	N/A	
Use of fire extinguishers/blankets (Article 21-Training of the Regulatory Reform Fire (Scotland) Act 2005 2005))	Yes	It is understood that this is covered as part of CoL periodic fire safety training which all employees must complete.
Employee fire safety	Yes	No records were seen on site as these are held centrally. However, it is understood that periodic fire safety training is undertaken.
New employee – fire safety induction	Yes	It is understood that that all employees must complete online fire training as part of the induction process.
Fire sprinkler operational checks	Yes	PPM provided.
Evacuation Aids	N/A	