Operational Fire Strategy for Java & St Andrews Wharf

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1. Scope

This fire safety strategy is designed to provide guidance and information in relation to how the building is designed to function in the event of a fire.

This document does not provide specific guidance on fire prevention, testing, maintenance, or training, although understanding how the building is designed to function, will help to inform those areas of fire safety management.

The document serves several purposes:

- It acts as a reference document for the Responsible Person and the building's managers
- It provides a base document for anyone carrying out the Fire Risk Assessment (FRA), so they can understand how the building is designed to work and therefore they can assess if the arrangements at the time of their FRA still allow that design to function
- It provides background information for any Authority Having Jurisdiction (AHJ) carrying out their regulatory activities
- It provides guidance for any contractor carrying out work that may impact on the structure of the building, or any of the fire safety systems
- The Appendix to the strategy has compartmentation drawings which can be used to inform contractors so they can ensure these are reinstated at the end of any intrusive works

2. Introduction

A fire safety strategy essentially should address three elements: the building itself; the people within the building; and the management processes and procedures that exist to maintain the building.

This document will lay out the details for how these three elements are designed to ensure that fire safety within Java and St Andrews Wharf is maintained.

Although fire is a relatively rare occurrence in the UK, the effects can be significant and long lasting if the arrangements for preparing for the event and subsequently managing one should it occur, are not conducted effectively.

While there are legal responsibilities and requirements in relation to fire safety, primarily aimed at protecting people, there are also other issues that should be recognised:

- The emotional impacts of fire
- The protection of property
- Business continuity
- Reputational risk

A robust strategy, management, procedures, and arrangements can prevent a fire and mitigate the effects of one should it occur.

The strategy will be presented in three distinct, but related sections:

- The building. This section will detail the structural elements and the active and passive fire safety systems, such as the fire detection and alarm
- The people. This section will explain the human factors, constraints, and design assumptions for the occupants of the building
- The management and procedures. This section will outline the activities that the responsible person and their representatives will need to undertake to ensure that the systems and building continue to function as designed.

3. General Principles

The fundamental principles upon which this strategy is based are:

- That any significant fire will occur in a flat, not a circulation space
- That an alarm will be raised within the affected flat at an early stage of the fire's development
- That the compartmentation of the flat will contain the fire and smoke
- That occupants in unaffected flats can remain safely within their flats, but that if they decide to leave their flat, it will be safe for them to do so
- That any smoke that does enter any internal escape routes, will be able to leave the building via smoke vents

3.1 Guidance

As Java and St Andrews Wharf is an existing building, it would be inappropriate to apply current Building Regulations, or design guides to the property. Therefore, the fire safety principles of this strategy are based on the fundamental principles that were applied when the building was originally designed and general fire engineering principles.

4. The Building

4.1 Introduction

Java and St Andrews Wharf was built around 1865 as a Victorian Warehouse. It is a Grade II listed building, which was converted behind the listed façade to flats in the 1980's.

The 7-storey building now consists of a ground floor, which is used for garaging and access lobbies to the upper floors; plus 6 upper floors which are all used for residential apartments. All of the flats are privately owned.

The building has two entrances on the Ground Floor: Java Wharf and St Andrew's Wharf. The building has common floors throughout, but the Java Wharf end of the building (the North side) extends to a 4th floor, whereas the St Andrews end (the South side) extends to a 6th floor.

The building has concrete floors and a brick façade. The internal partitions are a mixture of brick and block walls, and studwork partitioning.

The building has two primary staircases that serve the ground to 5th floors. There are two helical staircases that serve the 6th floor only.

The 6th Floor accommodation consists of the upper floors of 4 duplex flats that are accessible form the 5th Floor. All of these flats have an alternative escape on the 6th Floor.

Floor plans for the building are depicted within Appendix A of this report.

4.2 Evacuation Strategy

The evacuation strategy for the floors above the Ground Floor is 'Defend in Place', or stay-put. This means that in the event of a fire, the occupants of the affected flat would evacuate, but all other residents should be safe to remain within their flats.

This strategy does not imply that residents must remain within their flats if they wish to leave, but it does mean that it is safe to do so, as long as the flat isn't affected by the effects of the fire.

When the Fire Service arrives to tackle the fire, they may carry out some tactical evacuation of parts of the building to assist with their firefighting activities.

The evacuation strategy for the car park is 'Simultaneous'. In the event of an alarm activation in this area, an audible alarm will sound and all occupants will immediately make their way out of the car park.

4.3 The Building Structure and Compartmentation

4.3.1. Structural Fire Resistance

The structural fire resistance for the building should be to a 60-minute standard. Therefore, all columns, beams, walls, and floors that are supporting the structure should have this level of fire resistance.

The building is required to have compartment floors, which will all also be fire resisting to a 90-minute standard.

4.3.2. Compartmentation and Fire Resistance

To support the evacuation strategy, each of the flats is formed as a self-contained fire resisting compartment. All of the walls, floors and ceilings within the flats, is designed to withstand the effects of a fire for 60 minutes.

The principle behind this design, is that no flat will contain enough fuel (furniture and contents etc.) to sustain a fully developed fire for more than 60 minutes. Therefore any fire that starts in a flat should remain within the same flat until such time as the Fire Service arrive and extinguish the fire.

it is therefore imperative that the compartmentation throughout the building is maintained and that any breaches are rectified without delay. Any proposed alterations to the building, or the passing of services through compartment boundaries must be carefully planned and managed to ensure that the evacuation strategy remains valid and tenable.

The drawings in Appendix A show the compartmentation lines for the building.

5. Fire Detection and Alarm System

5.1 Within Flats

Each of the flats has its own internal, independent fire detection and alarm system. When the building was converted to flats, the standard at the time would have recommended the provision of a smoke detector within the entrance hallways to each of the flats. It is understood that this is the current minimum provision within each of the flats. It is important that residents maintain their internal fire detectors, but it is recognised that the Java Wharf Management Limited are not able to enforce this issue.

These internal systems will only sound an alarm within the affected flat. There will not be a common alarm raised as a result of a detector activation within a flat.

5.2 Common Areas

The staircases and corridors are provided with a fire detection system, which has the primary function of operating 3rd party devices in the event of an activation. See Section 6 for details of the Smoke Control Systems and Appendix B for the cause-and-effect protocols for the fire alarm system.

No common audible alarm will sound throughout the building in the event of a detector activation within the common areas, as this would conflict with the Defend in Place evacuation strategy. An alarm will be transmitted to the Concierge Office on the Ground Floor of Java Wharf, and to the alarm panel which is situated on the ground floor of St Andrew's Wharf.

There is a single call point within the building, which is adjacent to the final exit leading to Shad Thames from St Andrew's Wharf. This call point will activate the fire alarm panels, but will not operate a common alarm within the building.

5.3 Car Park

The car park has heat detectors and call points fitted throughout. An activation of a device within the car park will result in an audible alarm sounding throughout and a fire signal being transmitted to the fire alarm panel and repeater panel.

5.4 Control Equipment

There is a fire alarm control panel within the Ground Floor lobby of St Andrews Wharf. There is a repeater panel within the Concierge Office on the Ground Floor of Java Wharf. The locations are depicted on the floor plans within Appendix A.

The panels are fully addressable and will indicate the location of any detector or device that has activated.

6. Means of Escape

6.1 Corridors

All of the corridors within the building are fire protected to a 60-minute standard. All flat front doors are fire resisting to a 30-minute standard and have self-closing devices fitted [FD30(S) doors]. The condition of these doors and their self-closing devices are critical to the protection of the common corridors.

All riser cupboard doors are fire resisting to a 30-minute standard and are kept locked shut at all times. The compartment floors are maintained on each floor within the riser cupboards.

The section of corridor that is adjacent to each staircase should ideally be ventilated to protect the staircase. This is the case with all staircases except staircase A which is accessed form the Java Wharf entrance – see Figure 1 details.

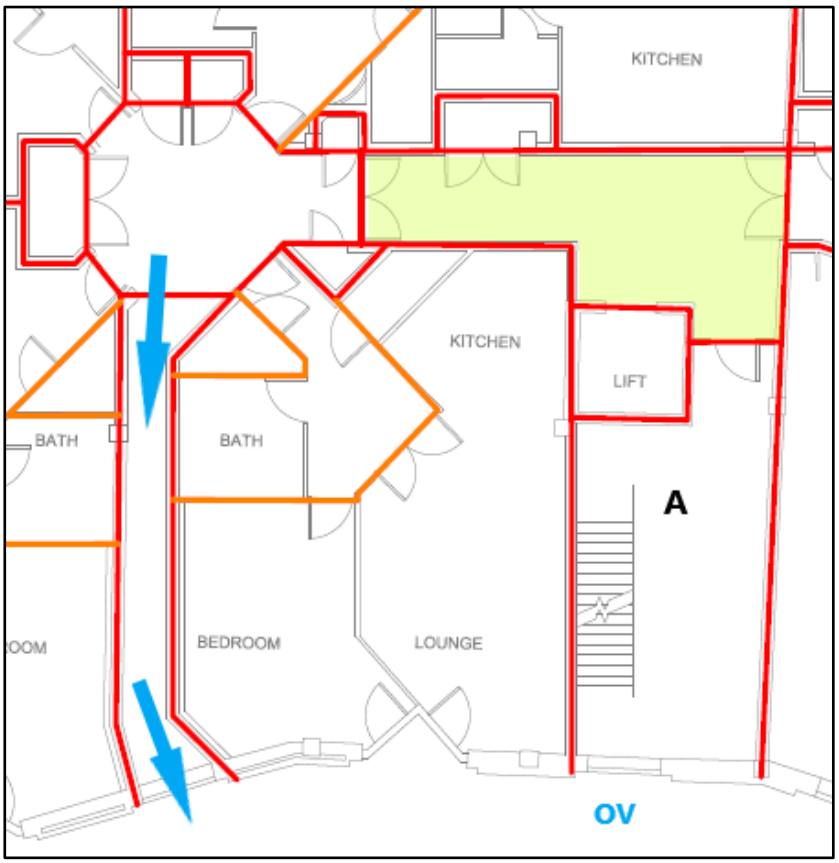

Figure 1 - Staircase 'A' Arrangements

The lift lobby that is adjacent to the staircase (shown shaded in pale green) would ordinarily be ventilated to conform to modern fire safety guidance, however the original design of the building has not facilitated this.

The only risk room that opens into this lobby is a riser cupboard. It is important that this cupboard door is maintained in a working condition and that no combustible items are stored here. The door is designed to be kept locked shut at all times.

Consideration has been given to removing the double set of fire doors between the ventilated portion of the floor and the lift lobby, which would have the effect of ventilating the area adjacent to the staircase.

Currently the lift lobby can be considered a place of relative safety, as no flats open into it and there is limited risk of a fire starting in this area. For that reason, once the occupants of the flats in the ventilated section of the floor enter the lift lobby, they are relatively safe and therefore the assessed travel distance can be stopped at this point.

If the doors were removed, the travel distance would need to be measured from the flat entrance door to the staircase access door. This additional distance would be outside of recommended guidance and would also remove one line of compartmentation from the staircase. For this reason, the decision was made to not remove the doors and to leave the ventilation arrangements (in terms of position) as they are.

The functional goal of protecting the staircase is achieved, albeit in a manner that would not be recommended by contemporary fire safety guidance.

6.2 Staircases

The building has 4 common staircases, which are identified within Appendix A. The means of ventilating each of the stairs is detailed within Table 1 below.

Staircase	Floors Served	Ventilation
A	Ground to 4th (Java Wharf)	Openable Vents
B	Ground to 5th (St Andrews Wharf)	Automatically Opening Vents
C	4th to 6th	Permanently Open Vents
D	5th to 6th	Permanently Open Vents

Table 1 - Staircase Details

Each staircase is protected by fire resisting construction to a 60-minute standard.

6.3 Doors on Escape Routes

All doors on escape routes e.g. cross-corridor doors and doors to the staircases, are easily openable without the use of a key.

The final exit doors from the entrances to Java Wharf, St Andrews Wharf, and the car park are fitted with security devices. These devices will release in the event of a fire alarm activation and the doors are also provided with ‘Break Glass to Open’ boxes on the risk side of the doors.

6.4 Car Park

The car park is provided with two fire exits: one leads directly onto Shad Thames through a door adjacent to the roller shutter entrance ramp; and the other exit is through the St Andrews’ Entrance Hall.

No part of the car park is more than 45m from one of these exits, which is the maximum travel distance recommended for a car park where multiple escape routes are available.

6.5 Emergency Lighting

An emergency lighting system has been installed throughout the common areas of the building to conform to the requirements of BS 5266. This includes the car park.

It is recognised that non-maintained emergency lighting will only illuminate in the event of a power failure to the lighting circuit, and it is therefore necessary to ensure that normal lighting is maintained throughout all common areas.

6.6 Escape Signage

All escape routes and exits are conspicuously marked with appropriate signage in accordance with the recommendations of ISO 3864-1 and the relevant parts of BS 5499. These signs are in areas that are appropriately lit by both normal lighting and emergency lighting.

If any redecoration takes place, it must be ensured that signs are replaced as appropriate.

7. Smoke Control

7.1 Introduction

The functional requirements of smoke control within residential buildings, is to keep the staircase(s) relatively clear of smoke and to assist the Fire Service with their tactical firefighting operations.

Due to the age of the building, the smoke control systems are outside of what would be recommended within contemporary guidance today, however the functional requirements should still be achieved with what is provided.

The smoke control systems within the building are all natural systems.

The building is fitted with 3 independent forms of smoke vents:

- permanently open vents (POV);
- automatically opening vents (AOV); and
- openable vents (OV)

The floor plans in Appendix A show the location of the different arrangements of vents. There is an AOV at the head of staircase B, which is not shown on the drawings. This AOV is linked to the fire detection system in the common areas and will open in the event of a detector activation anywhere within the South part of the building.

There is a Firefighter Control Switch for the AOVs within the entrance foyer to St Andrews Wharf. The location is shown on the drawing plan within Appendix A.

7.2 Permanently Open Vents (POV)

The POV that serve the horizontal shafts on floors 1 to 4 are in the form of louvered doors as shown in Figure 3. These doors have their top edges at a height that is above the height of the door leading to the staircase (South building) or lobby (North building). This arrangement is designed to prevent smoke from impacting on the staircases (A & B) to encourage smoke to leave the building via the horizontal shafts.

There are permanent louvered vents at the top of the two helical staircases, which are designed to allow any smoke that enters those staircases to dissipate directly to atmosphere outside of the building.

7.3 Automatically Opening Vents (AOV)

The fifth floor has vents within the areas that are adjacent to the two helical staircases. These vents are partially automatic and partially manual. The top section (approximately 0.8m^2), is an AOV; the lower section (approximately 0.8m^2) is a manually openable vent. Both vents are directly on an outside wall and vent directly to atmosphere. These vents are designed to prevent smoke getting into the helical staircases and the automatic sections will open in the event of a detector activation on the 5th Floor.

The AOV on the southernmost end of the building is also designed to prevent smoke getting into staircase B at the 5th Floor level.

There is an AOV at the top of staircase B which has an area of approximately 1m^2. This vent will open on activation of any detector within the common areas of St Andrews Wharf and is designed to allow any smoke that does enter the staircase to dissipate directly to the outside of the building.

7.4 Openable Vents (OV)

Staircase A is provided with OV in the form of windows on floors 1 to 4 and in addition, a door on the 4th Floor, which opens onto the open-air roof terrace.

These vents can be utilised by the Fire Service for smoke clearance as part of their tactical plans. They are not designed to be used by occupants during an escape.

As there are two staircases that are available for means of escape form the upper floors to the Ground Floor, the building is designed to ensure that a single fire event cannot impact on both staircases. For this reason, the absence of an AOV in staircase A does not present any fire safety issues.

7.5 Car Park

The car park has natural ventilation in the form of permanently open vents on opposing sides. These vents take the form of numerous barred windows on the river and Shad Thames sides of the building.

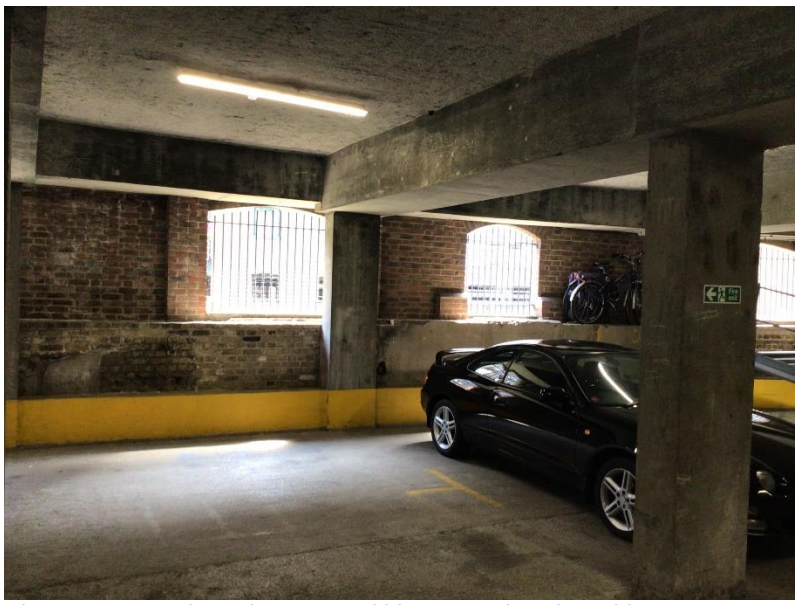

Figure 2 - Natural Smoke Vents Within Car Park - River side

Timber battens have been added to the barred windows on the Shad Thames side of the car park to improve security, which has reduced the aerodynamic free area of the vents on this side, but it is not considered to have significantly impacted on the overall ventilation provision due to the total number of vents.

The aggregate vent area should be 1/20th of the car park's floor area and at least half of this (1/40th) should be on opposite sides of the car park. This is achieved with the current arrangements, but any consideration for additional screening that involves the vents should be carefully assessed.

8. Facilities for Firefighting

8.1 Introduction

The building has a number of facilities to assist attending firefighters in dealing with an incident. These systems are critical to the attending fire crews' ability to effectively resolve a fire event within the building.

These systems will be tested and maintained to ensure they are functioning correctly at all times. Any defects will be rectified as soon as possible.

If any defects are identified that will require a significant amount of time to remedy e.g. more than one week, the Fire Service should be notified so they have the opportunity to adapt their operational plans accordingly.

Critical systems for the Fire Service within Java and St Andrews Wharf are:

- The Dry Riser
- Smoke Control Systems

8.2 Dry Riser

There is a dry riser provided for the St Andrews Wharf side of the building, as the flats on the 5th and 6th floors are further than 45m away from the position where a fire appliance could park on Shad Thames.

The dry riser inlet is positioned adjacent to the St Andrews entrance to the building as shown within Figure 2 below.

Figure 3 - Dry Riser Inlet Position

The dry riser outlets on the 1st to 4th floors of the South end of the building, are within the smoke ventilation shafts on each floor as shown in Figures 4 and 5.

Figure 4 - Smoke Shaft Door

Figure 5 - Dry Riser Location Within Smoke Shaft

The doors giving access to the dry riser outlets on floors 1 to 4 are kept locked shut and keys have been provided to the local Fire Stations. A set of keys is also kept within the Premises Information Box.

8.3 Firefighting Lift

The lift is accessed at ground floor level within the lobby to the St Andrews' entrance. The lift serves all floors between the Ground and 5th Floors. As the Fire Service will never take the lift to the top floor in a fire scenario, and all of the accommodation on the 6th Floor is accessible form the 5th Floor, the lack of access to the 6th Floor via the lift is not an issue.

8.4 Smoke Control

There are smoke ventilation provisions throughout the building, which are described in detail within Section 7 of this report.

The Firefighter Control Switch for the AOVs is within the St Andrews' entrance hall.

8.5 Premises Information Box (PIB)

In the Entrance Hall to St Andrews Wharf, is the PIB. This box contains relevant information regarding the building, including a set of up-to-date floor plans.

This box should also contain a list of flat numbers where residents may not be able to self-evacuate in the event of an incident. See Section 9.3 for details.

9. The People

9.1 Introduction

The flats within Java and St Andrews Wharf are all privately owned and the occupancy is typical for a 'general needs' apartment building. It is assumed that there will be a variety of occupants with varying physical and mental abilities; families with young children; elderly residents with age related challenges; and that some residents may have lifestyle issues that increase their individual risk of fire.

This strategy seeks to ensure that irrespective of an individual's particular circumstances, the risk from fire is at a level that is acceptable.

9.2 Evacuation Strategy

As detailed within Section 4.2 of this document, the evacuation strategy is 'Defend in Place'. This arrangement provides for a safe environment for all residents, in the event of a fire within a flat that is not their own. The active and passive systems that are provided within the building will ensure that a person within their unaffected flat is safe, unless there is a failure in the overall strategy.

For residents within a flat that experiences a fire, their primary protection is their individual fire detection and alarm system. This is their own responsibility and as detailed within Section 5.1, it is assumed that all residents have some form of detection in their flats. The more extensive this detection is, the earlier warning they will receive in the event of a fire and the more time they will have to make a safe escape from their flat.

Once they have left their flat, the fire safety provisions within the common areas will provide a safe environment for them to make their way safely from the building.

9.3 Personal Emergency Evacuation Plans (PEEPS)

There may be residents within the building who may not be able to make an effective evacuation from the building without assistance. There should be a mechanism for these individuals to identify themselves to the Responsible Person, so consideration can be given to assistance options, and also so the Fire Service can be informed of their location in the event of an incident.

The Responsible Person for the building should have a system whereby residents can notify them if they have a disability, or are unable to independently evacuate from the building. It is not a legal requirement for a resident to provide this information, but it may be in their best interest.

Measures that may be considered to improve the situation could be simply recording their location and keeping the information updated within the Premises Information Box (see Section 8.5), or exploring options for a 'buddy' system, whereby another resident could provide assistance if required.

It should be noted that at the time of writing this strategy document, HM Government are in the process of reviewing the law in relation to PEEPS and residential buildings. The outcome of the consultation process and any subsequent changes to the law which may place additional responsibilities on Responsible Persons, should be reviewed at that time.

10. Management and Procedures

10.1 Introduction

Without a robust management system and appropriate procedures to manage the fire safety arrangements, the overall fire safety strategy will not be effective.

Java and St Andrews Wharf is currently managed by Java Wharf Management Limited, and this organisation will arrange for the fire safety systems to be maintained and tested in accordance with the manufacturer's instructions.

10.2 Recording of Information

This fire safety strategy should be kept within the fire safety folder for the building. The folder should also include:

- The fire risk assessment
- Commissioning certificates for fire safety systems
- Maintenance and testing records for all fire safety systems
- Details of unwanted fire alarm activations and steps taken to remedy them
- Details of maintenance contracts and call out numbers
- Details of visits by the Fire Service

10.3 Maintenance and Testing of Systems

All fire safety systems should be tested in accordance with manufacturer's instructions.

The fire safety systems are critical to the overall fire strategy, and in particular to the appropriateness of the 'defend in place' evacuation strategy. It is therefore imperative that any faults on the systems are cleared without delay.

10.4 Escape Routes

It is the responsibility of the managers for the building to ensure that escape routes are kept clear and available at all times. Staircases and escape corridors should not be used for the storage of any materials.

Fire doors should be regularly checked to ensure that they are functioning correctly and any defects rectified without delay.

10.5 Fire Risk Assessment (FRA)

Java and St Andrews Wharf has a current fire risk assessment and there are currently no outstanding high priority significant findings. When the FRA is reviewed, the competent person should refer to this fire strategy to gain an understanding of the building's design intentions.

The FRA should be reviewed if there is any reason to believe it is no longer valid, or there have been significant changes within the building. Reasons for a review may include:

- Significant changes to the building, such as alterations, or internal layouts
- Changes to work activities or the use of areas of the building
- Changes to the numbers of people that may be within the building, or outdoor area
- In the event of a fire or near miss, where systems or procedures were found to be inadequate

It is recommended that a review is carried out on an annual basis if none of the listed instances has instigated one.

11. Building Works

If there are future plans to carry out alterations or building works to the building, this strategy and associated drawings should be referred to, and the ramifications of the proposed works assessed based on the contents.

Any Consultation should also be carried out with a Building Control Body prior to the commencement of works.

12. Limitations

This strategy has been based upon a site visit carried out on August 4th, 2021, and information provided by the client.

The contents only relate to the building known as Java and St Andrews Wharf in Shad Thames, London.

13. Conclusion

This operational fire safety strategy is designed to provide guidance and information in relation to how the building is designed to function in the event of a fire, and how staff and residents can work together to ensure that the systems that are provided within the building, are able to function as designed.

It should be referred to before any material changes are carried out to the building and should be made available to anyone carrying out a fire risk assessment for the building.

This document contains information that may also be useful for the Fire Service in the event of an incident.

Any changes to this document should only be made following discussion with a competent person.

14. Appendix A – Floor Plans

Legend for all drawings

Staircase Identifiers	**A, B, C, D**
30 minutes of fire resistance	
60 minutes of fire resistance	
Fire Alarm Indicator Panel	IP
Automatic Smoke Vent Control	SVC
Premises Information Box	PIB
Openable Vent	OV
Automatically Opening Vent	AOV
Permanently Open Vent	POV
Ventilation Path	
Dry Riser Inlet	
Dry Riser Outlet	

Table 2 - Drawing Legend

All doors within fire resisting compartment walls are FD30(S) fire doors.

Fire doors to riser cupboards and other non-common areas e.g. plant rooms, will be kept locked shut, all other fire doors will be self-closing.

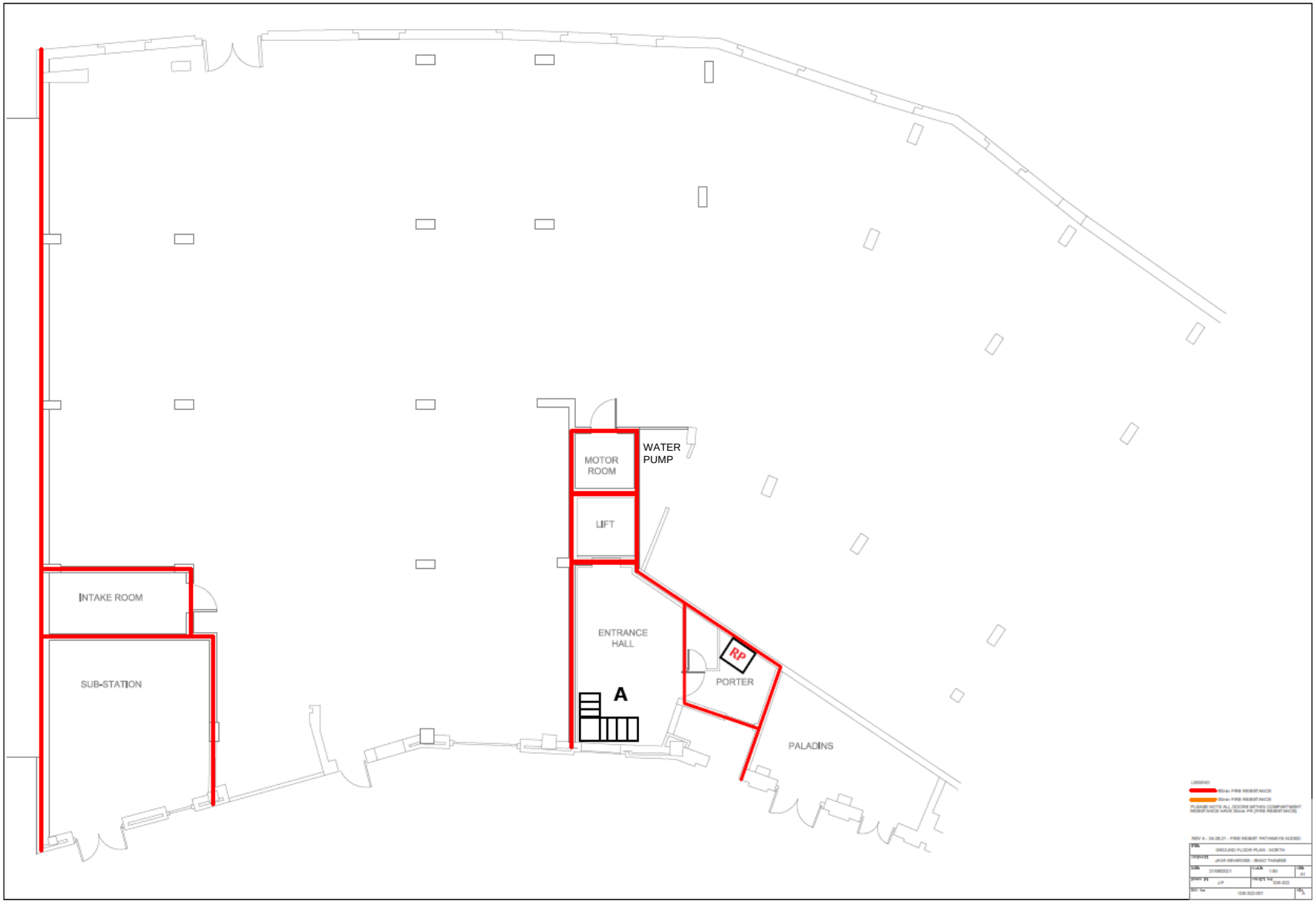

Figure 6 - Ground Floor North (Java Wharf Entrance)

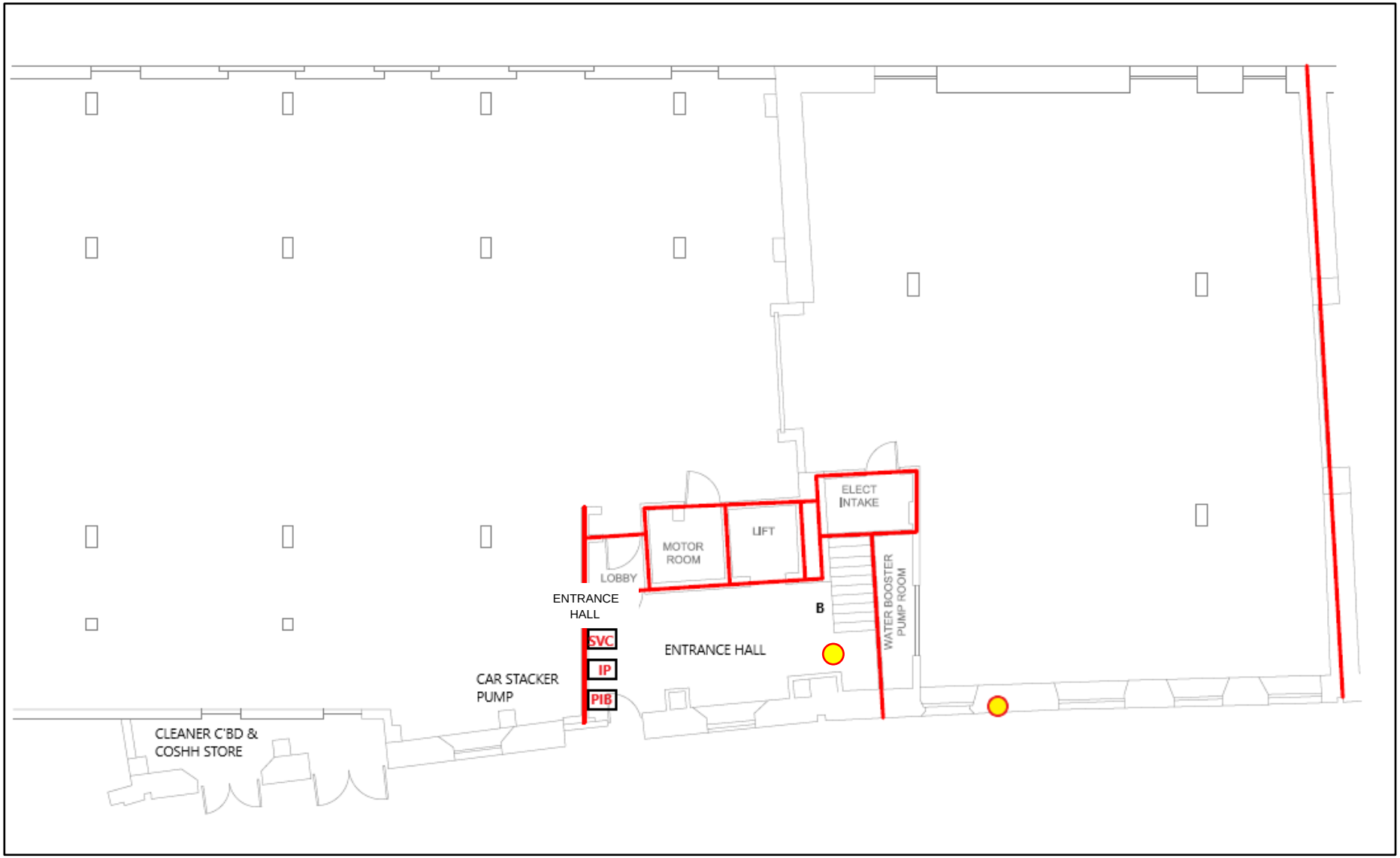

Figure 7 - Ground Floor South (St Andrews Entrance)

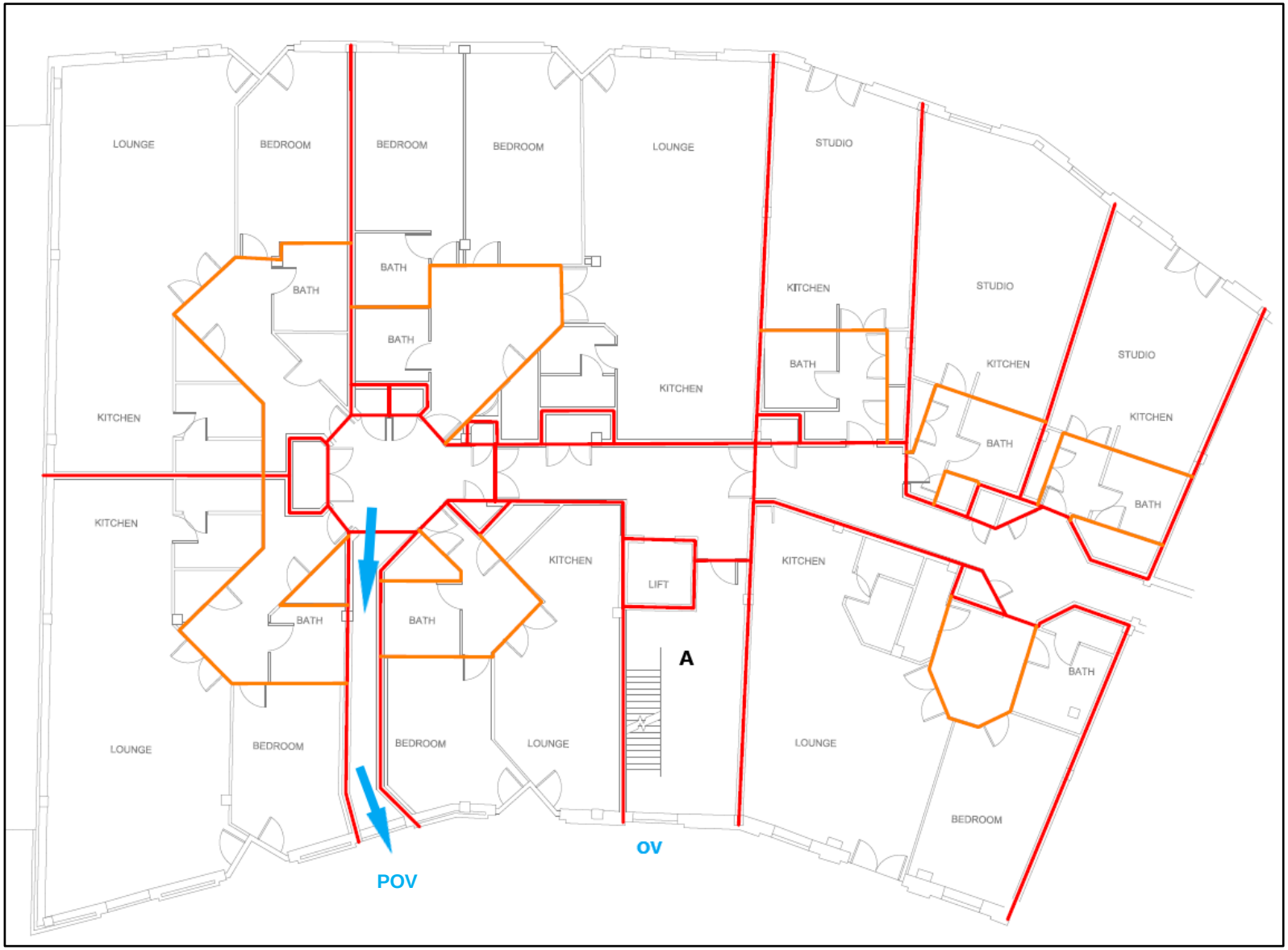

Figure 8 - 1st to 3rd Floors North

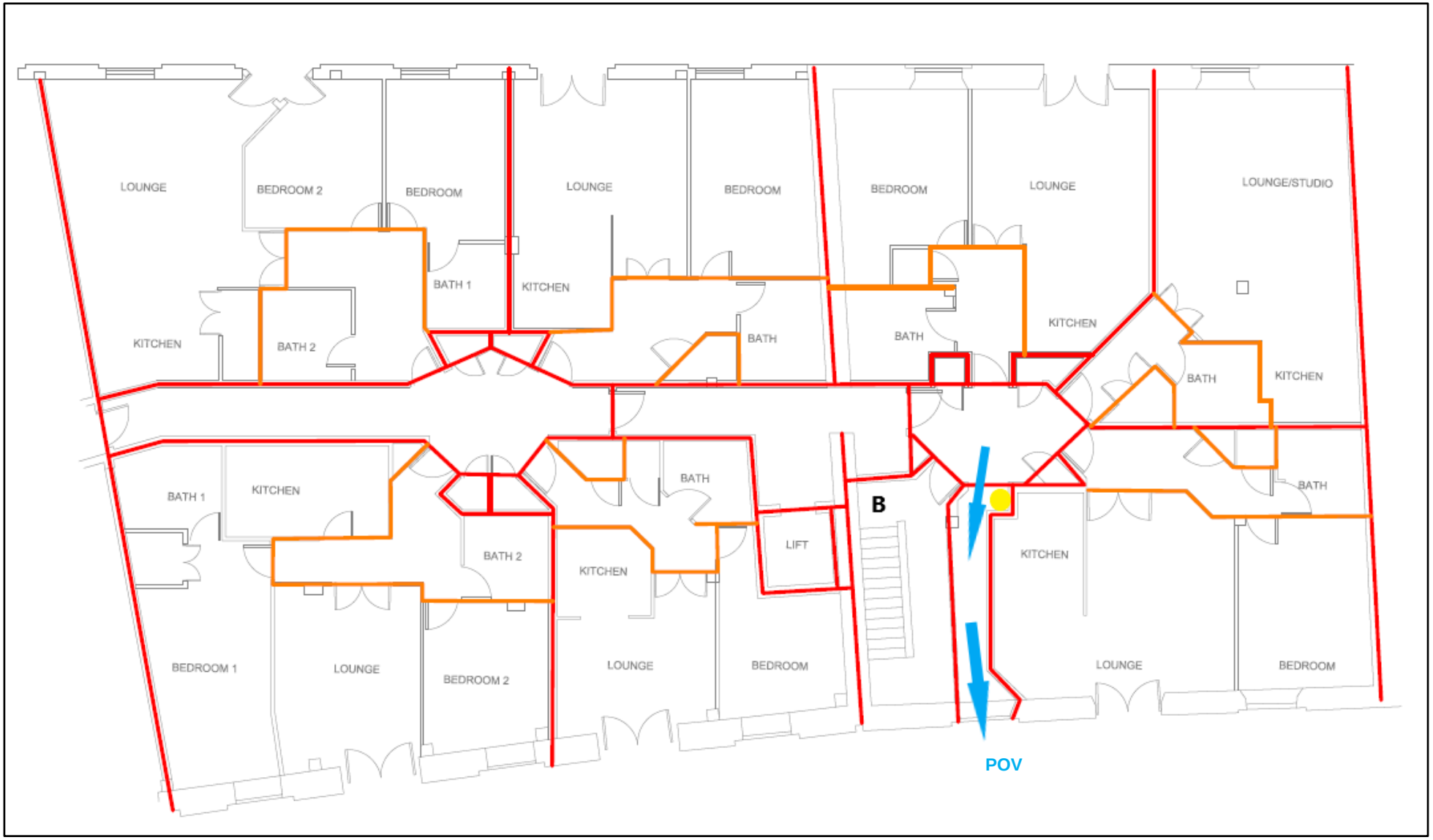

Figure 9 - 1st to 3rd Floors South

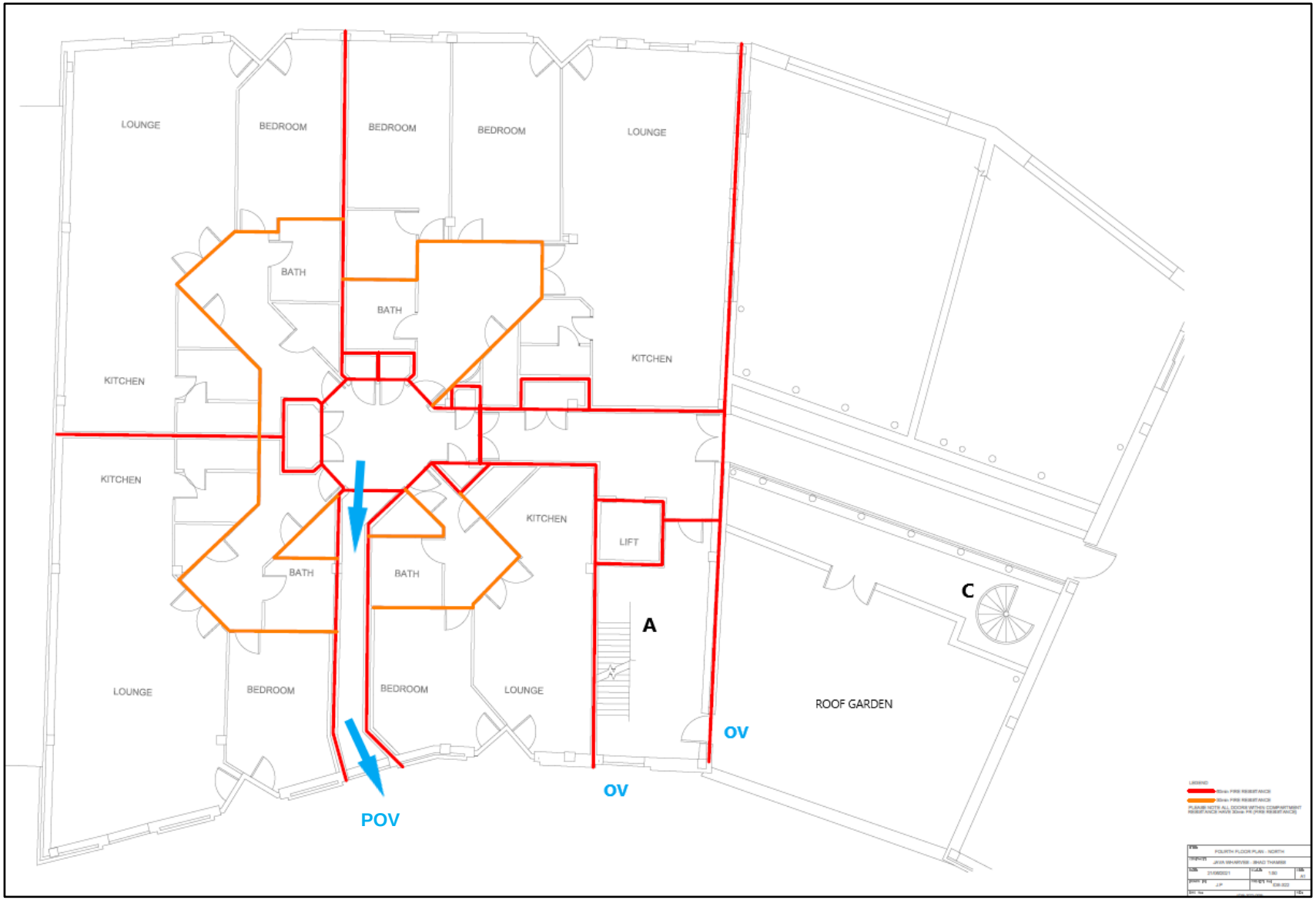

Figure 10 - 4th Floor North

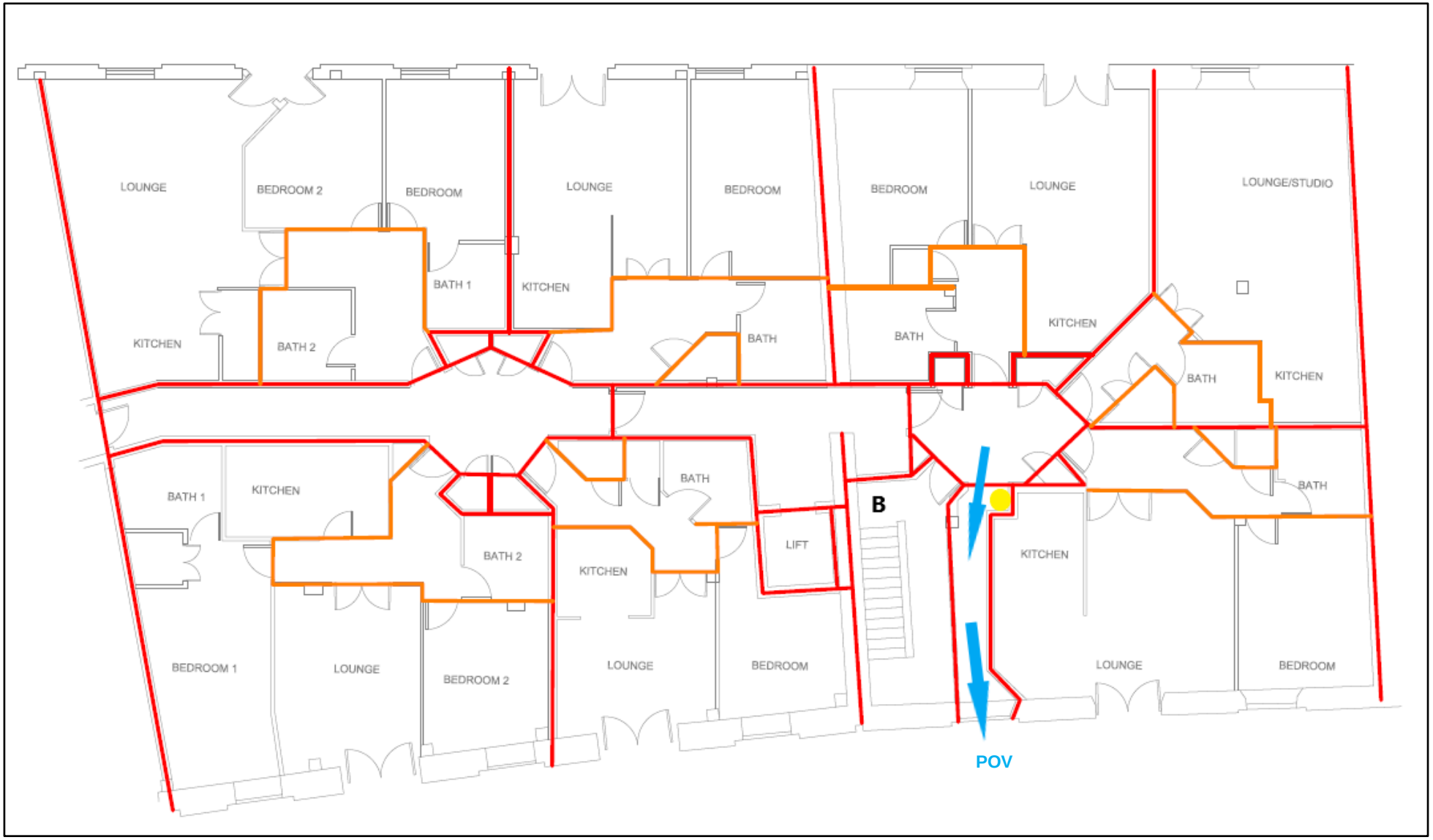

Figure 11 - 4th Floor South

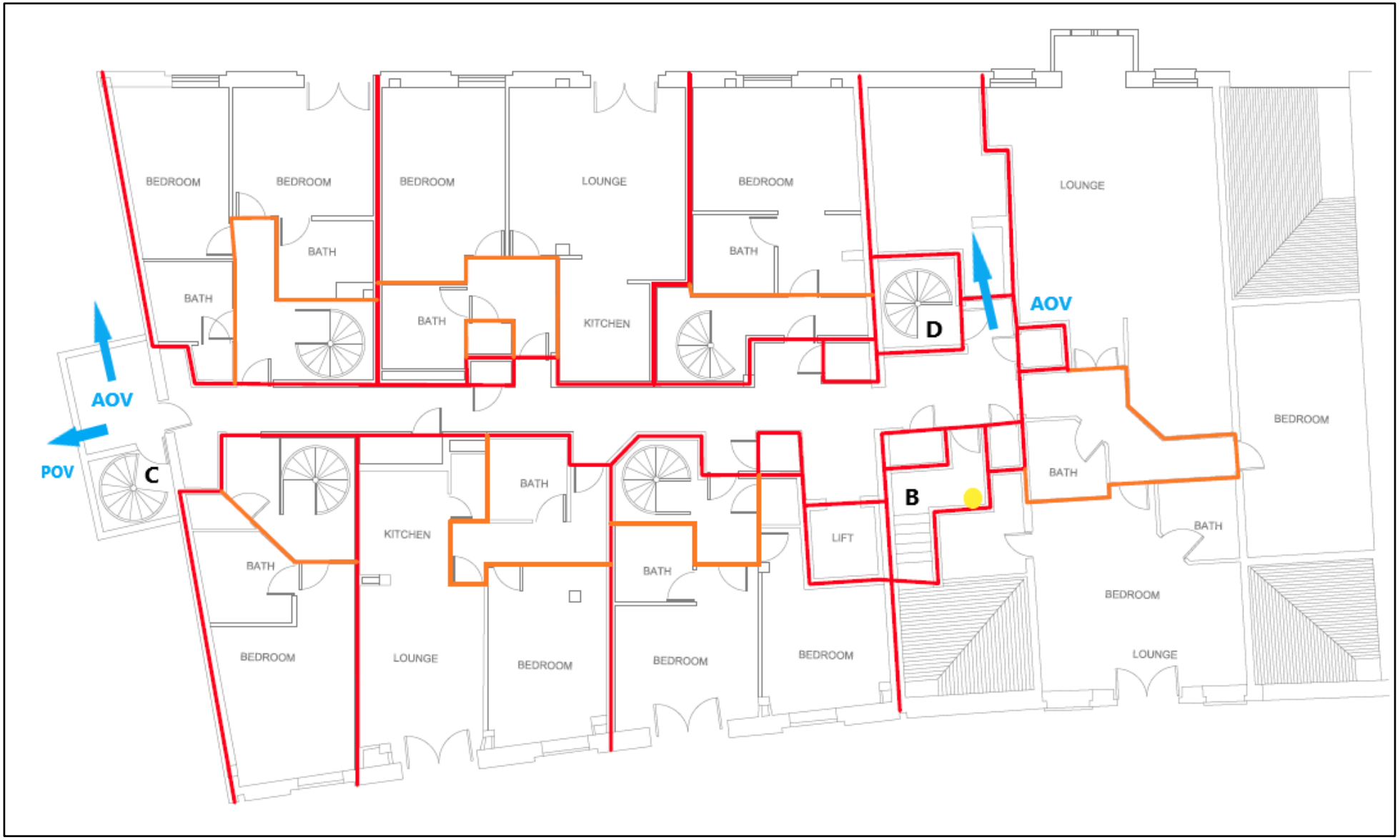

Figure 12 - 5th Floor

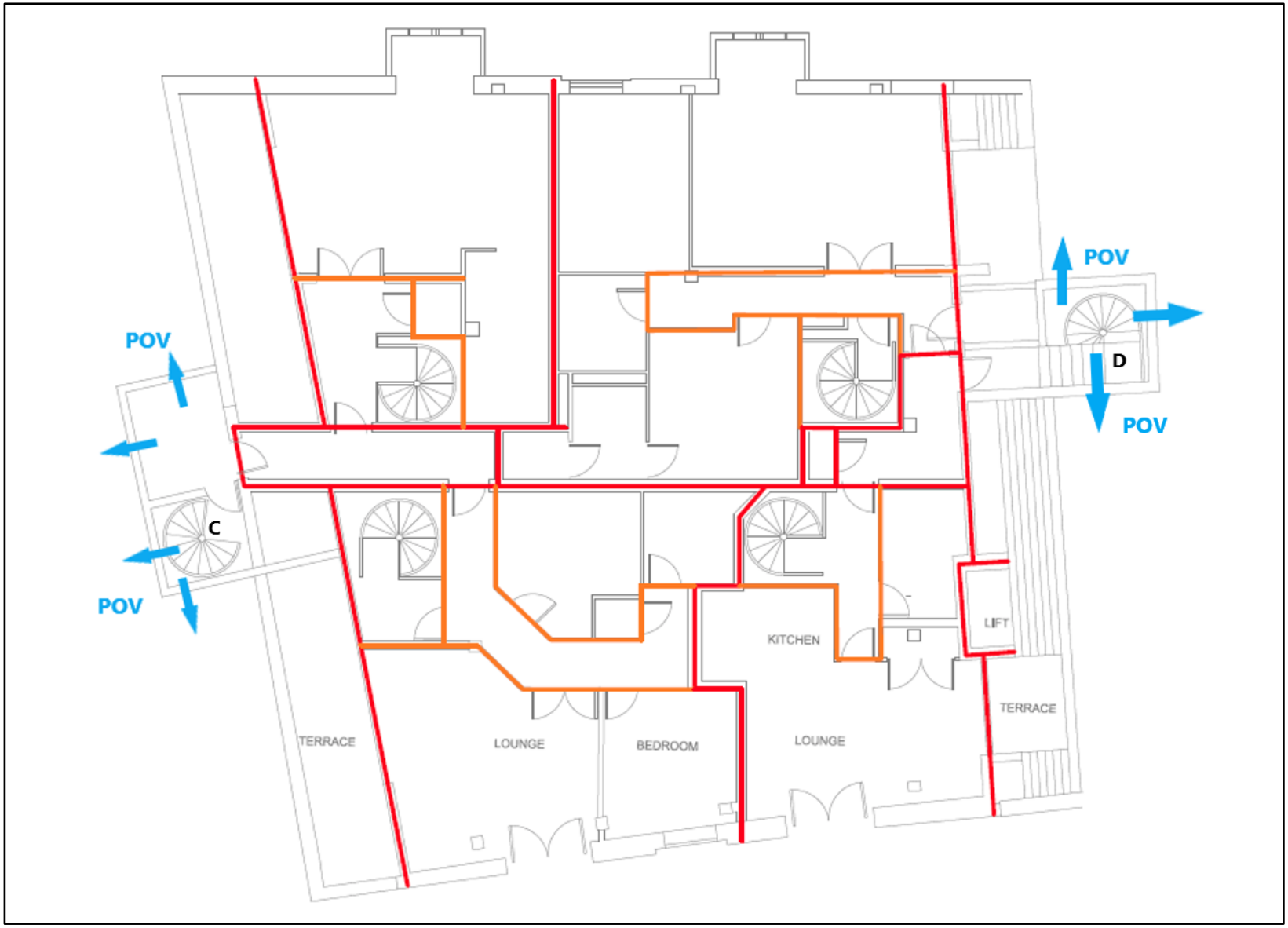

Figure 13 - 6th Floor

15. Appendix B – Evacuation Strategy Instructions

Java and St Andrews Wharf operates a 'Defend in Place' (stay put) fire strategy everywhere other than the car park.

If a fire breaks out in your flat, leave the affected room and close the door behind you. Inform everyone else in your flat and collectively leave the flat and close the door behind you.

Leave the building, dial 999 and ask for the Fire Service.

Tell the Fire Service:

- The exact address and postcode – Java and St Andrews Wharf, 12-16, Shad Thames, SE1 2YH
- The affected flat number and floor
- Whether anyone is still inside the flat, or if it has been fully evacuated
- What is on fire (if you know)
- Any other information requested

If you become aware of a fire elsewhere in the building, but your flat is unaffected, you can remain safely in your flat. You can leave your flat if you choose to do so, but you should be safe to remain, unless the Fire Service ask you to leave, or your flat becomes affected by smoke, heat, or flames.

The principle behind this policy, is that the building is structurally designed to contain a fire for at least 60 minutes in the flat where it started. Within this timeframe the Fire Service will have attended and tackled the fire.

There is no common alarm within the building, as this would conflict with the evacuation strategy, so you will not hear an alarm unless your flat is affected.

There are smoke detectors within the corridors and staircases, but these are not designed to raise the alarm, but they will operate other devices such as the smoke control vents.

Within the car park, the strategy is simultaneous evacuation. If you hear an alarm in this area, you should leave the building via the nearest exit. If you discover a fire in the car park, leave via the nearest exit and operate the break glass call point that is adjacent to the fire exits.

Once out of the building, dial 999 and ask for the Fire Service.

Tell the Fire Service:

- The exact address and postcode – Java and St Andrews Wharf, 12-16, Shad Thames, SE1 2YH
- That the fire is in the Ground Floor car park
- What is on fire e.g. a car, two cars etc.
- Any other information requested