PAS9980 REVIEW

Client:		Wandle Housing Association
Project:		Chloe Court
Location:		1-22 Bournemouth Road, London, SE15 4UN
MAF Ref:		MAF/023/035
Assessment Date:		9th March 2023
Assessor:		Richard Morris - BEng (Hons), MSc, MSFE
Chartered Engineer:		Michael Fox – C.BuildE MCABE MICWCI MIFSM AssocRICS

Documents Received

Document	Author	Report Date
Cladding Inspection Report – Rev A	Martin Arnold	12th December 2022
Fire Risk Assessment	Frankhams RMS	8th December 2022
External Wall Risk Assessment	MAF Associates	19th February 2020
EWS1 Form	MAF Associates	20th August 2020
EWS1 Cover Letter	MAF Associates	3rd January 2020
Bournemouth Road Elevations	DMWR	October 2010
External Wall Materials	DMWR	October 2010
Roof / Fifth Floor GA Plan	DMWR	October 2010
Sixth Floor Plan	DMWR	October 2010
Window & Balcony	DMWR	October 2010

Competence Statement

I can confirm that the inspection / review and assessment is undertaken in accordance with PAS9980:2022 and has been conducted by myself. I can confirm that I have read and understood the commentary and provisions relating to the competence of external wall assessors, as set out in Section 8 and Annex H of PAS9980:2022. I can confirm I possess adequate relevant competence, sufficient skills and experience to interpret the results of intrusive inspections. I have the competence to appraise the nature of external wall constructions in terms of its fire performance and provide opinion on the risk in accordance with Clause 13- Basic Level Assessment, PAS9980:2022.

Following our investigations and assessment, should it be concluded that a further in-depth technical assessment is required, the report and findings will be required to be verified by a Chartered Engineer along with further technical assessment, using fire engineering analysis, as per PAS9980:2022 Clause 14. The Chartered Engineer must have relevant experience in fire safety and the performance of external wall constructions.

I can confirm that I am a Chartered Building Engineer and hold full membership with the Chartered Association of Building Engineers. I am a full member of the Institute of Clerks of Works and Construction Inspectorate and I hold full membership of the Institute of Fire Safety

Managers. I am a Tier 3 Fire Risk Assessor as noted on the Fire Sector Federation Risk Assessor Register.

The conclusions and recommendations of the report are the authors independent assessment of the risks. Any remedial actions recommended in this report are proportionate to the risk to life and have not been influenced by others.

I can confirm that Michael A Fox Associates Ltd hold professional Indemnity insurance at £2,000,000 in the aggregate in respect of fire safety work and EWS1.

Limitations of review

Michael A Fox Associates Ltd may refer to the as built drawings and specifications contained in the O&M manuals (if available and supplied), but this does not constitute confirmation of the brand of the products used in construction. Where the product's branding is absent Michael A Fox Associates Ltd will state the expected combustibility-rating based on the known characteristics of the materials in use. Michael A Fox Associates Ltd will endeavour to review sample areas from various elevations and levels however, the ability to do so may be impeded by factors out of our control, such as weather conditions and access restrictions. Such issues will be quantified in this report. The supporting evidence provided in this report has been selected to substantiate the statements made within its content. Additional photographs are available upon request.

1. Building Overview

Building:		Chloe Court, 1-22 Bournemouth Road, London, SE15 4UN
Construction Date:		c.2007
Fire Safety Height:		18.3m
Floors:		7 Floors including the ground floor

2. Introduction

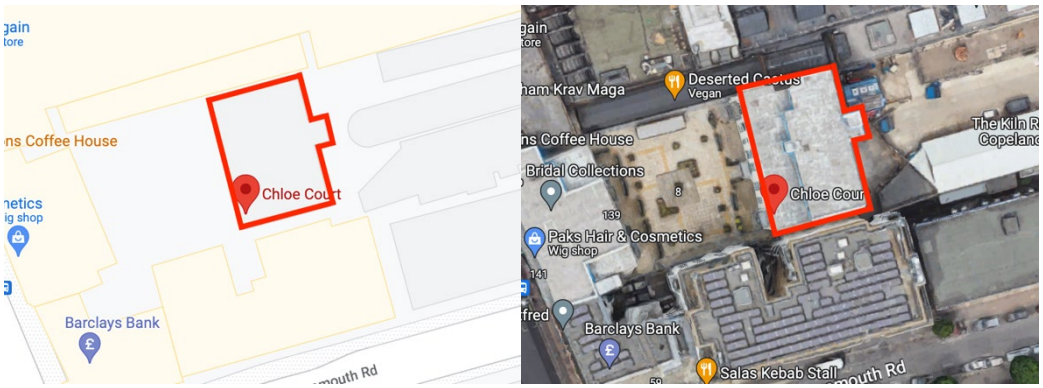
Michael A Fox Associates Ltd were instructed to carry out an expert review of the external walls of the referenced buildings and documentation provided by Wandle Housing Association the documentation received is referenced above.

The PAS9980 review of the information has been undertaken by
Assessor: Richard Morris - BEng (Hons), MSc, MSFE
Chartered Engineer: Michael A Fox – C.BuildE MCABE MICWCI MIFSM AssocRICS

3. Building Description

The property is a seven storey block comprising of 22 dwellings with an approximate height of 18.3m measured from the ground to the 6th floor level. The top floor of the block is inset with a rendered finish, along the West elevation, which was not accessed at the time of inspection. The ground floor is commercial use with the 22 dwellings above, with communal access from Bournemouth Road. The residential element of the property sits on top of a podium level, and opposite another residential block of flats known as Thalia Court. The property was built circa 2007, based on the assumption that construction followed granting of planning consent in 2004, allowing 3 years to clear pre-start planning conditions, project tender and construction phase. From our intrusive inspections at three locations on the West elevation (facing communal podium area) and noting internal exposed areas, the construction is load bearing blockwork with precast concrete plank floors.

4. Building Plan



5. Fire Safety Strategy

Chloe Court is a 7 storey brick, concrete and steel constructed block of 22 flats the entrances to which are located via lobby protection from the stairwell on floors 1-6. The flats are built above retail premises, with a secure entrance at street level. There is a fire fighter override key, to the ground floor hallway and access to the electrical cupboard, lift and the single, protected, staircase to the upper floors. Windows within the staircase and AOVs in the lobbies provide ventilation, along with the front door and the alternative exit to the courtyard shared with Thalia Court.

The building height is measured from the lowest point of the ground to the uppermost floor, floor level in compliance the requirements set down in Diagram D6 ADB.

6. Building Elevations

Figure 4 – View of West Elevation from Thalia Court

Figure 2 – View of Courtyard Elevation (West Elevation)

7. Inspection

Wandle provided MA with reports where the property was previously opened up, in most cases this information was not sufficient for MA to make accurate recommendations for remedial works to the property. The previous reports provided for Chloe Court were:

- Frankham – Fire Risk Assessment – 6th January 2022
- MAF Associates – Fire Risk Assessment of the External Walls – 19th February 2020
- FFT – Intrusive Cladding Inspections – December 2020

External Wall Type 1: Render EPS Insulated

P1 – Locations 1, 2, 3, 4 courtyard elevation

P2 – Location 1 rendered insulation

P3 – Location 1 overall depth

P4 – Location 2 party wall junction

P5 – Location 2 party wall junction

P6 – Location 2 party wall junction

The Contractor exposed three areas of render. Location 1 was along the party floor junction and location 2 was along the party wall junction. The construction comprised of a rendered finish on mesh, EPS insulation (polystyrene insulation) fixed with adhesive onto blockwork, with 10mm cavity between blockwork and EPS insulation. The overall thickness measured 100mm from the external face of blockwork to external face of render. No cavity barriers were found to be present. Location 3 was at the window reveal and the same wall construction was encountered. No cavity closer or barrier was found.

It was noted that within the FFT Intrusive Cladding Inspection report dated December 2020, a mineral wool fire barrier was found and the report stated fire barriers were present at party floors and walls. However, during our intrusive inspections none were found to be present. The MAF Associates report also concluded that cavity barriers had not been installed.

8. External Wall System

Based on the information provided obtained from the invasive inspection, as illustrated there are two main type external walls for this building, namely:

- Wall type 1 – Render over EPS Insulation

The external wall construction detail of the two wall types is summarized in the table below.

	Wall Type 1 - Render
Construction Detail	5mm Render 85mm EPS insulation 10mm Clear cavity, created by dabs 215mm Masonry blockwork 2 x 12.5mm Internal finish skimmed plasterboard
Inspection Observation	• No as built information from the building owners. • Penetrations not adequately sealed. • Cavity barriers not installed.

External Wall Construction

Wall type 1 – Render over EPS Insulation

Inner Finish		Inner Wall	Cavity	Insulation	Outer Wall
12.5mm	12.5mm	215mm	10mm	85mm	5mm
Plasterboard	Plasterboard	Masonry blockwork	Drainage void	PIR Insulation	Render

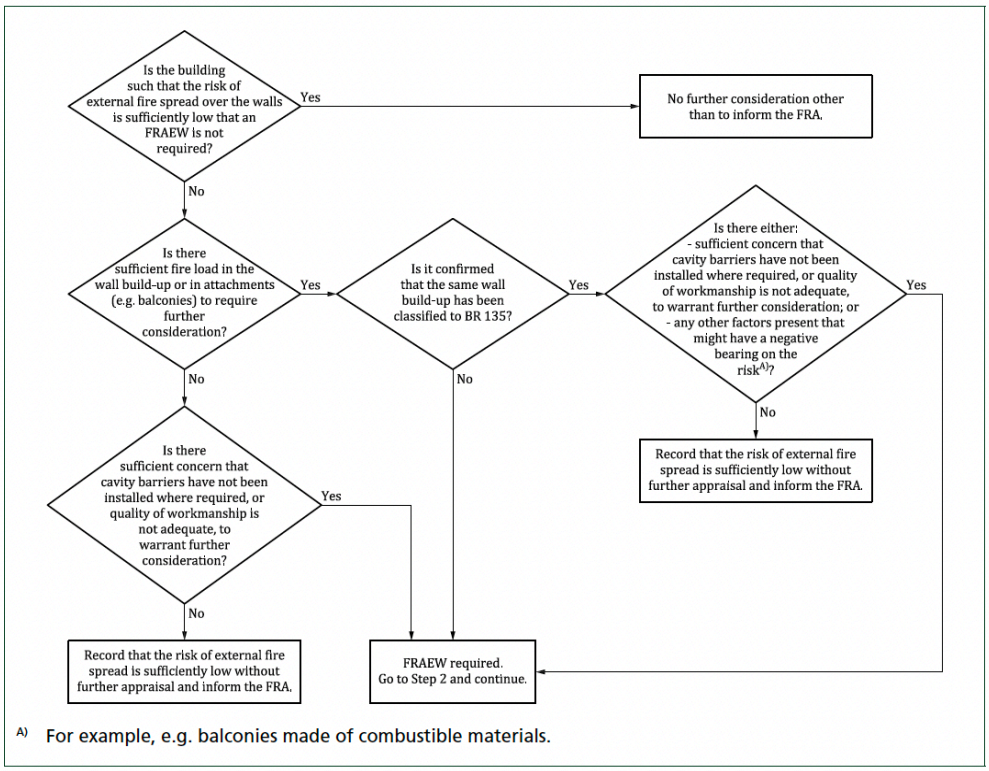
9. PAS9980 – ASSESSMENT

TABLE 1 - Description of positive neutral and negative risk factors

Factors	Fire Performance	Facade configuration	Fire strategy
POSITIVE	Significantly limits the scope for rapid fire spread.	Significantly limits the scope for secondary risks resulting from fire spread.	Significantly increases the ability of occupants to remain safely in the building or to escape if fire spreads.
NEUTRAL	Neither significantly promotes nor limits the scope of rapid fire spread. Fire spread expected to be within normal expectations.	Neither significantly promotes nor limits the scope of secondary fires.	The influence is neither definitively positive nor negative, or they are characteristic of factors that impact on the safety of people in the building; when there is external fire spread this is within normal expectations.
NEGATIVE	Notably exacerbates / promotes the scope of rapid fire spread.	Notably exacerbates / promotes the scope for secondary fires.	Notably exacerbates / promotes the potential for harm to occupants as they may not be able to remain safely in the building or make their escape.

The process illustrated in PAS 9980 (Figure 4) is used to determine whether a full FRAEW is required:

Figure 4 – Process for determining whether a full FRAEW is required



A) For example, e.g. balconies made of combustible materials.

Wall Type 1: Render over EPS Insulation

Is a full FRAEW required?

Is the building such that the risk of external fire spread over the walls is sufficiently low that an FRAEW is not required?		
NO	YES	N/a
Is there sufficient fire load in the wall build-up or in attachments (e.g. balconies) to require further consideration?		
NO	**YES**	N/a
Is it confirmed that the same wall build-up has been classified to BR135?		
NO	YES	N/a
Therefore, is an FRAEW required?		
NO	**YES**	N/a

Fire Performance Risk Factor – Table K.1

Wall Type 1: Render over EPS Insulation		
	Comment	Risk Factor
External surface classification:	Masonry Reaction to Fire Classification A2	Positive
Cladding panel:	N/a	N/a
Gap size:	N/a	N/a
Cavity:	10mm cavity between the masonry and EPS insulation. The surfaces exposed to the cavity are combustible. Cavity barriers er not recorded	Negative
Insulation:	Expanded Polystyrene Insulation (EPS) has material classification of E / F	Negative
Substrate:	Masonry Blockwork	Positive
Sheathing board:	N/a	N/a
Insulated core panels:	N/a	N/a
ETICS:	The render coat is 5mm, it cannot be considered to be a thick coat render	Negative
Infill panel:	N/a	N/a
Spandrel panel:	N/a	N/a
Internal finishes:	Skimmed plasterboard	Positive

Applying the risk factors – Consideration of the fire performance risk factors
The external render coat has some fire resistance and is considered to be Positive factor. However, the Expanded Polystyrene Insulation (EPS) does have any fire resistance and is considered a negative factor. Cavity barriers were not recorded. The masonry substate is considered a positive factor. There is no BS8414 with a BR135 fire test where cavity barriers have not been used as part of the fire test. **The fire performance risk factors, of this wall type, is therefore the middle of HIGH.**

HIGH	MEDIUM	LOW

Façade Configuration Risk Factors – Table N.1

Wall Type 1: Render over EPS Insulation		
	Comment	Risk Factor
Building height:	Above 18m	Negative
Height of cladding above ground:	This wall type starts from the ground floor	Negative
Extent of cladding:	Approximately 100% of the building.	Negative
Cavities:	The masonry spans more than one floor and there omissions and efficiencies with the cavity barriers	Negative
Infill/spandrel panels:	N/a	N/a
Setbacks:	N/a	N/a
Overhangs/projections:	N/a	N/a
Proximity to windows and other openings to the accommodation:	The front and rear elevations have openings into the accommodation	Negative
Presence of vents or other openings for services in the façade:	Vents pass through combustible construction and are not protected	Negative

Proximity of combustible elements of a facade to escape route windows and other openings:	The stairs are within the building and not on the external wall.	Neutral
Attachments:	Balconies attached to the front and rear elevation have combustible decking. Masonry is only at ground level below the balconies	Neutral
Proximity of combustible elements of a facade to a neighbouring building:	No neighbouring buildings in close proximity	Positive

Applying the risk factors – Consideration of the façade configuration risk factors		
The height of the building is over 18m and the insulated render makes up the majority of the external wall, the system spans wall and cavity barriers have not been installed, these are negative factors. The combustible insulation is in close proximity to opening and stacked balconies are attached to the external wall. The façade configuration risk factors, of this wall type, is therefore the lower end of HIGH.		
⬇		
HIGH	MEDIUM	LOW

Fire / strategy hazard Risk Factors – Table F.1

Wall Type 1: Render over EPS Insulation		
	Comment	Risk Factor
Occupancy:	The building is mainly used as General Needs accommodation. According to the fire risk assessment, no residents needing evacuation assistance is known	Neutral
Evacuation strategy:	For the purpose of this assessment, it is considered the building would operate a Stay-put policy	Neutral

Escape route design:	Single protected stairs with lobby approach	Neutral
Compartmentation:	Adequate compartmentation has been assumed as noted in the internal fire risk assessment	Neutral
Smoke control:	AOV at the head of stair	Neutral
Fire detection & alarm system:	A full fire alarm system with panel, detection, and call points has been provided.	Positive
Fire suppression:	N/a	N/a
Firefighting facilities:	Restricted access to the elevations for fire fighting	Negative
Rising main:	Dry riser installed	Neutral
Lifts for use by fire service:	N/a	N/a
Specific fire hazards:	Stacked balconies with render walls	Negative

Applying the risk factors – Consideration of fire strategy / fire hazards
The adequacy of the internal fire compartmentation is a neutral factor. The fire detection and alarm is a positive factor. Access to the elevations is restricted for firefighting, this is a negative factor. **The fire strategy / fire hazards risk factors, of this wall type, is therefore the lower end of HIGH**
⬇

HIGH	MEDIUM	LOW

10. Actions to be taken.

Wall type 1	Render over EPS Insulation
Risk	High – Remediation required
Reason:	EPS insulation, no cavity barriers
Action:	1. Remove and replace the EPS render system with a non-combustible alternative system 2. To reduce the risk Install proprietary cavity barriers in line with compartment walls and floors as well as suitable cavity barriers around the openings.

Balconies	Storage
Risk	Medium – Remediation required
Reason:	Stacked balconies and combustible screening
Action:	Remove personal storage and timber screening

11. Assessor Opinion

Chloe Court is a multi-occupancy general needs residential building. The building is managed by Wandle Housing. The building is constructed around a concrete frame with masonry load bearing walls, the building comprises 22 individual self-contained dwellings over 7 floors. The building height is confirmed as 18.3m. The building was constructed in 2007.

The building has one protected escape stairs which are situated adjacent to the external wall. The stairs have openable windows and AOV at the head of the stairs, the maximum travel distance from the further most dwelling to the stair is compliant for a building of this type and height.

The dwellings are likely to have a BS5839-Part 6 domestic smoke and heat detection and alarm, which is likely to be a Category LD3 system. Comment is made within the Frankham RM internal fire risk assessment report that A Grade A fire alarm, with manual call points, has been installed. This is not in line with current guidance for purpose built blocks of flats. to the common areas. The risk assessment notes the internal compartmentation as good with certificated installation.

The external walls are constructed around a concrete frame with load bearing masonry walls and floor. The insulated render is the main external wall material.

The outer walls are noted as:

- Wall type 1 – render over EPS Insulation

The insulated render system is considered to be combustible as such the external surfaces of the building are likely to assist fire. The EPS insulation is likely to have a Material Fire Classification of Grade E or lower, as such the product is considered combustible.

The insulated render covers the majority of the building and this is considered to be a negative factor, the render spans floor levels and has window penetrations, these are negative factors but they are also aggravated by the lack of cavity barriers at floor and party wall areas. It is unlikely to have the system will have the necessary fire resistance in the event of a fire.

The balconies are stacked and any fire starting on a balcony could interact with the external wall and assist spread between balconies.

The positive factors which could mitigate some of the risk are as follows:

Fire detection & alarm.

Good compartmentation.

The nearest fire station is Peckham Fire Station which is approximately 1.0 miles from the property, however early attendance and intervention cannot be guaranteed. However, access to the elevations of the building is restricted so early intervention could be compromised.

The risk to life has been assessed as **Substantial.**

12. Author & Validation

Assessor:		Richard Morris - BEng (Hons), MSc, MSFE
Date:		6th March 2023
Signature:		
Chartered Engineer:		Michael Fox – C.BuildE MCABE MICWCI MIFSM AssocRICS
Date:		18th April 2023
Signature: