

KL/28.01.14  
12.09.13

AIS Approved Inspector Services  
**Fire Safety**  
In response to Plan Check Report (PCR)  
Project Number PA 13/226  
Andrew Maple

**B1: Means of Warning & Escape**

B1.2 A sprinkler system will be installed to the requirements of BS9251:2005.

Refer to drawings and details by Residential Sprinklers Ltd.  
6a Copthall Farm, Breakspear Road South  
Ickenham  
Middlesex  
UB10 8HB  
Tel. 020 8864 3914  
Email: info@residentialsprinklers.co.uk

Drawing numbers: RSS361/142-FP02, Sheet A1 & RSS361/142-FP02, Sheet A1

**B2 Fire Detection System**

An LD3 Grade D fire detection system will be installed to BS 5839-6 and linked to the sprinkler system. Detectors are shown on Cowper Griffith's schematic Fire Strategy layouts 1257- 700 to 704, all Revision A

The contractor should refer to the lighting layouts for each floor for the setting out of ceiling mounted detectors.

**B3 Stairwell/Escape route**

The stairwell walls will be upgraded to a min 30mins FR  
Where walls are panelled, the surfaces will be upgraded to Class 1 for the surface spread of flame. Please refer to Cowper Griffith Schematic Layouts for each level.

**In summary:**

**Basement 1257-704 Rev.A**

The stairwell comprises masonry walls; doors leading off the enclosure will be upgraded to FR20 (please refer to item 3.1 below)

**Ground & First Floor Stairwell 1257-700 Rev.A, 1257-701 Rev.A**

The stairwell comprises historic panelling on all sides. This is a combination of single skin raised and fielded and double skin raised and fielded panelling (to the Stairwell side).

The room side panelling will be upgraded to 30min FR. The stairwell panelling will be upgraded to Class 1 for the surface spread of flame.

The Room side single skin, raised and fielded panelling to the front room (G.02) and part of the rear room (G03) to be painted with 2coats HW02 (clear intumescent paint) at 8m<sup>2</sup> per litre per coat, 1coat HW Enviroclear at 12m<sup>2</sup> per litre protective top coat.

The double skin panelling in the rear room (G03) will have 15mm thk intumescent board applied to the room side face of the stair panelling so that it fits between the two new steel posts embedded within the double skin panelling. The intumescent board will be 15mm Glasroc F Firecase board by British Gypsum or similar to provide a min 30mins FR.

The same combination of intumescent paint and board will be used for the first floor rooms.

The stairwell and corridor panelling will be upgraded to achieve Class 1 surface spread of flame with 2coats Q/VFR/W (white) or Q/V/FRC (clear) and over-painted with decorative paint.

**Second Floor Stairwell 1257-702 Rev.A**

The stairwell comprises panelling on all sides but the panels are inset rather than raised and fielded so will require a slightly different manner of upgrading.

The single skin panelling will be upgraded by applying an intumescent paper faced with white fire card (ES/MP/900) to the inset panels using IA adhesive. The stiles and rails of the panelling will be painted with 2coats HW02 (clear intumescent paint) at 8m<sup>2</sup> per litre per coat, 1 coat HW Enviroclear protective coat at 12m<sup>2</sup> per litre. The panelling can then be over painted with a decorative coat as required.

The double skin panelling in the rear room will be upgraded by inserting a 15mm thick intumescent board (such as Glasroc F fireboard or similar) between the new steel posts.

The stairwell side of the panelling will be upgraded to achieve Class 1 for the surface spread of flame using 2coats Q/VFR/W (white or Q/VFR/C (clear) and overprinted with decorative paint as required.

### **Third Floor Stairwell- 1257-703 Rev.A**

The panelling forming the enclosure to the upper flight of the attic staircase is single skin with wooden posts. The inset panels will be upgraded on the room side by applying intumescent paper faced with white fire card and fixed with IA adhesive. The stiles and rails will be painted with 2coats HW02 (clear intumescent paint) at 8m<sup>2</sup> per litre per coat and 1 coat HW Enviroclear at 12m<sup>2</sup> per litre protective coat. A decorative coat will be required. The stairwell side of the panelling will be upgraded to achieve Class 1 for the surface spread of flame by applying 2coats Q/VFR/W (white) or Q/VFR/C (clear) and over painted as required with a decorative coat.

#### **3.1 Doors**

The doors to habitable rooms located off the protected stairwell will be upgraded to FR20. These are shown on the Cowper Griffith Schematic layouts.

Summary:

##### **Basement**

New 4panel doors DB05, DB06 & DB10 all to match existing 4panel attic door DT02. Apply intumescent paint to the room side of stiles and rails (2coats HW02 (clear intumescent paint) at 8m<sup>2</sup> per litre per coat, 1 coat HW Enviroclear at 12m<sup>2</sup> per litre protective top coat. Line the inset flat panels with intumescent paper faced with white fire card and fixed with IA adhesive. Fire rated butt hinges to be fitted along with envirograph's product 71 intumescent door ironmongery protection paper to the rear of hinges and locks.

##### **Ground Floor Doors**

DG05, DG07 and DG10

These are existing doors. They will each be upgraded on the room side.

##### **Panelled doors with inset panels**

DG05 & DG07 will have intumescent paper faced with fire card adhered to the inset panels. Stiles and rails will be painted with 2coats HW02 (clear intumescent paint) at 8m<sup>2</sup> per litre per coat, 1 coat HW Enviroclear protective coat at 12m<sup>2</sup> per litre. The stairwell side will be treated for surface spread of flame with 2coats Q/VFR/W (white) or Q/VFR/C (clear) to achieve a minimum class 1. The existing historic glass in the upper section of DG07 will be retained unaltered.

##### **Panelled doors with raised and fielded panels**

DG10 is a raised and fielded doorleaf and will be treated on the room side with 2coats HW02 (clear intumescent paint) at 8m<sup>2</sup> per litre per coat and 1 coat HW Enviroclear protective top coat at 12m<sup>2</sup> per litre per coat.

The stair side of the leaf will be upgraded to achieve class 1 for surface spread of flame (as DG05 & DG07)

Existing hinges will be retained.

New ironmongery will be FR30 rated and fitted with envirograph's product 71 intumescent ironmongery protection paper to the rear.

##### **1<sup>st</sup> Floor Level Doors**

DF02 & DF03

These are existing doors. They will be upgraded on the room side.

In each case, the doors will follow the specification listed for ground floor doors (for inset panels and raised and fielded panels respectively).

The stair side will be upgraded for the surface spread of flame.

Existing hinges will be retained.

## **2<sup>nd</sup> Floor Level Doors**

DS01 & DS03

These are existing doors that will be upgraded on the room side following the specification for panelled doors with inset panels. Existing hinges will be retained. The stair side of each leaf will be upgraded to class 1 for the surface spread of flame.

## **3<sup>rd</sup> Floor Level Doors**

DT03, DT05 & DT02?

These will be upgraded on the rooms side using the specification for inset panels. The stair side of the leafs will be upgraded to Class 1 for the surface spread of flame.

### **B2 Internal Fire Spread (linings)**

Please refer to Cowper Griffith Schematic layouts indicating the panelled surfaces to be upgraded with 2coats Q/VFR/C or Q/VFR/W.

#### **Vertical Riser**

There is an existing vertical riser, which will be re-used. Access at each level is via openings in the panelling. The sides of the riser comprise masonry to two or three sides (refer to schematic floor plans for each level). The duct side of the panelling will be lined with Glasroc F firecase board and perimeters fitted with stone mineral wool. Glasroc F firecase board will be inserted as cavity barriers at each floor level. The soil stack will be fitted with intumescent collars and openings for services will be sealed with intumescent mastics.

### **B3 Internal Fire Spread (structure)**

New steel posts will be protected by 2 layers of 6mm thick intumescent board (Envirograph Product 91) to be adhered to the steel using Envirograph Product 46 (1A) (adhesive coverage 6m<sup>2</sup>/litre).

The exception will be the 1<sup>st</sup> and 2<sup>nd</sup> floor level posts inserted in the panelling between front and rear rooms. This will have 1 layer to the front and rear faces and 2 layers to the sides so that the steel can be completely concealed within the depth of the existing historic panelling. The panelling will be upgraded to achieve FR30 (refer to B3/Stairwell/Escape route notes). The combination of the upgraded panelling and the fire-protected steel should achieve an overall min 60minutes fire resistance.

The steel beams in the floor will be painted with intumescent paint (Envirograph Product 83) or similar to achieve 60minutes fire protection.

Junctions such as steel shoes will be clad in intumescent board (15mm Glasroc F Firecase board or similar)

#### **Lath & Plaster ceilings**

Existing lath and plaster ceilings will be repaired. Following the removal of any over papering, the surface will be upgraded with 2coats envirograph paint (EPCP at 8m<sup>2</sup> per litre per coat), 1 coat of HWAEC at 12m<sup>2</sup> per litre per coat. A decorative coat maybe applied. This will need to be a flexible acrylic based emulsion paint.