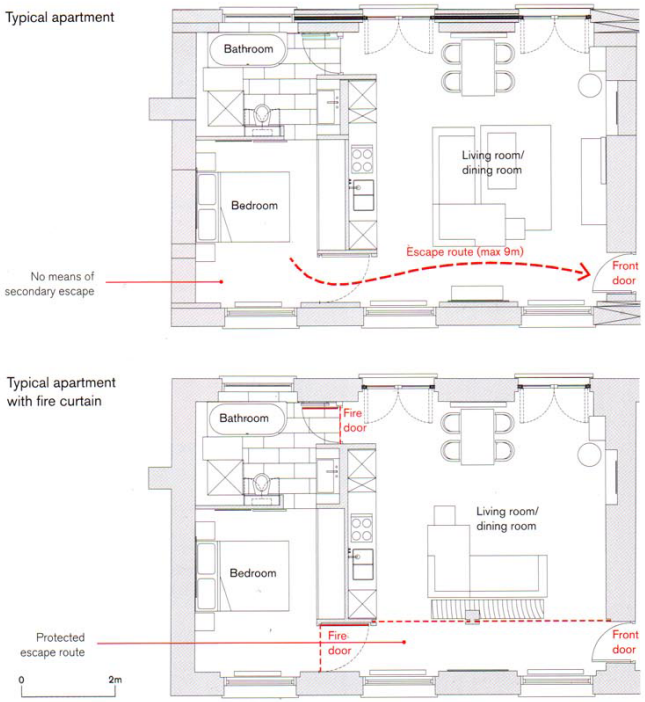

Left The open-plan design, without 'the usual dingy corridors and slamming fire doors'

Project 1 Church Entry, Blackfriars, London
Tender date October 2006
Start on site date February 2007
Completion date September 2008
Gross internal floor area 883m²
Form of contract and/or procurement JCT standard form/traditional tender
Total cost £2.4 million
Client Halcyon Property
Architect Form Design Architecture
Fire engineer Arup Fire
Structural engineer Michael Barclay Partnership
Services engineer Furness Green Partnership
Quantity surveyor Bond Davidson
Planning supervisor LST Construction Consultants
Main contractor Management & Construction Services (fit-out); Demolition Company Partnership (strip-out)

A CLEAR VIEW IN THE CITY

Fire regulations threatened the design of 12 apartments in the City of London. But, as *Kaye Alexander* reports, a solution was found that gave full vent to the architect's vision

'Building Regulation Approved Documents are guidance, they are not rules,' says Malcolm Crayton, director at Form Design Architecture. In the practice's recently completed residential project, 1 Church Entry, Form worked with Arup Fire to design an internal layout seemingly prohibited under Approved Document Part B (fire safety).

The office building near St Paul's Cathedral in the City of London was converted into 12 luxury one-bedroom apartments with the addition of a new penthouse. Form was keen to adopt an open-plan, loft-style approach 'with none of the usual dingy corridors and slamming fire doors', says Crayton. Its solution was to create a studio apartment format, separating the bathroom and bedroom areas from the living space using a bespoke 'floating' kitchen storage block.

However, with this arrangement the bedroom would be considered an 'inner room' under the Building Regulations and not allowed because there is no protected means of escape. The proposed duplex apartments on the ground and lower floors were also seemingly impossible, because the bedroom on the lower floor is accessed by an open-plan staircase from the upper-floor living area with no fire separation between the two.

'In the first instance, the possibility of using a fire curtain to screen a protected escape route from the bedroom during an emergency was considered,' says Crayton. 'But this was just too expensive and ruined the flexibility of the space. We would have had to introduce a fixed element to prevent loose furniture being moved across the line of the curtain which would compromise its operation.'

The solution was first developed by Arup Fire in 2006 as a 'Type Approval' (AJ 19.10.06). Arup Fire associate director Adam Monaghan explains: 'Type Approval means a solution approved by the local authority in three separate regions and acknowledged as a standard. But it is still controversial.'

The maximum travel distance from anywhere in the flat to the entrance is no more than 9m, which is in accordance with Guidance Note 2.13b (Means of Escape from Flats in Building Regulations Approved Document B1). In the duplex flats, the escape distance on one floor level is no more than 9m and the total escape route distance is no more than 11m.

Fire-rated screens were also introduced to the duplex apartments where the kitchens were located next to the open stair from the lower-floor bedroom. Kitchens are regarded as 'equipment of special fire hazard' and the screen prevents the escape route being compromised. 'Following Approved Document B1 you would expect there to be fire lobbies within each flat on to the communal corridor,' says Crayton. 'We did away with these and instead put in motorised window vents that open when activated by the smoke detector in the communal area.'

All apartments were provided with an automatic fire detection system, giving LD1 coverage, and installed to Grade D standard to BS 5839-6:2004. 'This meant one smoke detector in the bedroom, another in the living room, a heat alarm near the cooking area and a smoke alarm on each level of the communal hallway,' says Crayton.

'If we were going for a standard solution with a protected corridor arrangement we would only need a detector in the protected corridor. You don't even have to put sounders in every room,' says Monaghan. 'People would only be warned when smoke was encroaching on their route out of the building. We proved that our solution was at least, if not more, effective as the conventional approach.'