

FIRE SAFETY REPORT

for **The Former Star Public House, Star Road, Hillingdon UN10 0LZ**

Job Number 1664

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1.0 Introduction

Under the emerging New London Plan Policy D11, all major developments should be accompanied by a Fire Statement. This document comprises that statement. In this case, the main issue is access to the site for the Fire Brigade.

The proposed development the site of the former public house known as The Star, on the corner of Uxbridge Road and Star Road.

The proposal is for a block of 14 flats on the corner of these roads, with a commercial unit, covered car park and raised garden, together with two semi-detached family houses on Star Road

The project is a conventional small scale development with no unusual features or concerns. This report is to comply with the New London Plan Policy only.

Chassay Studio have long experience of similar developments, and we are familiar with the normal means of meeting the regulations.

The two building types, flats and dwelling houses, are essentially different in their fire requirements and will be treated separately in each part of the document below as necessary. The commercial unit and covered car park will also be considered where appropriate.

The dwelling houses are dealt with in Volume 1 of Approved Document

The flats and commercial unit are dealt with in Volume 2 of Approved Document

The commercial unit is a 'small commercial' for the purposes of the fire regulations.

The car park area is an 'open sided car park' for the purposes of the fire regulations.

2.0 Applicable legislation and guidance

During the planning stage of a project there are a limited number of requirements specifically addressing fire strategy and safety. The Fire Authority have no statutory obligation and therefore do not advise on any building scheme of this size as part of the planning process. The Building Regulations process usually occurs after planning approval on commencement of development, and these Regulations require that reasonable provisions are in place to ensure the health and safety of occupants in and around the building and for the conservation of fuel in buildings. Building Regulations 2010 are the principal piece of legislation for fire safety relevant to the site at Woodside Avenue, and it would be at a later, more detailed stage of design that the Fire Authority may be consulted by either local authority or Private Approved Inspectors as part of Building Control sign-off.

As part of the planning stage of design, an outline fire strategy is usually developed that describes how the building will satisfy the relevant fire safety requirements. It is not unusual at planning stage to have a number of options in place to allow for future flexibility as the design progresses into the detailed design stage. The main objectives of the outline fire strategy are to reduce the risk of significant design changes having to be made that could invalidate the planning approval (either requiring an amendment, or a new application) and to allow the project to be costed.

The Regulatory Reform (Fire Safety) Order 2005 does not apply to the dwelling houses at Woodside Avenue, therefore the only legislation relevant to fire safety is Building Regulations 2010. There are five functional requirements under Building Regulations that have to be complied with:

- ▪ Requirement B1 Means of warning and escape;
- ▪ Requirement B2 Internal fire spread (linings);
- ▪ Requirement B3 Internal fire spread (structure);
- ▪ Requirement B4 External fire spread; and
- ▪ Requirement B5 Access and facilities for the fire services.

The Government has produced a number of guidance documents to assist designers in meeting the relevant requirements of the Building Regulations; these 'Approved Documents' provide guidance on different aspects of the Regulations. Approved Document B (AD B) provides general design guidance on ways in which the functional fire safety requirements can be satisfied. There is no obligation to adopt any particular solution contained in an Approved Document, if the designer prefers to meet the relevant requirement in some other way. For dwellinghouses, there is more detailed guidance contained in BS 9991: 2015 *Fire safety in the design, management and use of residential buildings – Code of practice*. As with Approved Documents, BS 9991 also allows for alternative solutions to the recommendations contained within, provided that the designer demonstrates compliance with the relevant functional requirements of Building Regulations.

Building control bodies (either local authority or private Approved Inspectors) are responsible for checking for compliance with the requirements of the Building Regulations. During the design and construction phase of a project, the building control body will verify compliance with the requirements of the Building Regulations. On completion of the work, if the building control body is satisfied that the work complies with the requirements of the Building Regulations, they issue either, in the case of a local authority, a completion certificate, or in the case of an Approved Inspector, a final certificate.

All of the above legislative requirements mentioned will be dealt with as part of Building Control sign-off as per the usual processes, however for the purposes of alleviating concerns regarding access to Woodside Avenue, the relevant information required to satisfy these requirements is outlined below.

3.0 Building Construction & Materials - Requirements B2, B3 & B4

These requirements of the Building Regulations state:

- B2.** (1) *To inhibit the spread of fire within the building, the internal linings shall:*
- (a) adequately resist the spread of flame over their surfaces; and*
 - (b) have, if ignited, a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.*
- (2) *In this paragraph 'internal linings' mean the materials or products used in lining any partition, wall, ceiling or other internal structure.*

All walls and ceilings will be lined with plasterboard and painted with emulsion paint. This is rated "Class 1" for surface spread of flame.

Thermoplastic materials will not be used in windows, rooflights and lighting diffusers

- B3.** (1) *The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period.*
- (2) *A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those buildings. For the purposes of this sub-paragraph a house in a terrace and a semi-detached house are each to be treated as a separate building.*
- (3) *Where reasonably necessary to inhibit the spread of fire within the building, measures shall be taken, to an extent appropriate to the size and intended use of the building, comprising either or both of the following:*
- (a) sub-division of the building with fire-resisting construction;*
 - (b) installation of suitable automatic fire suppression systems.*
- (4) *The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.*

All the proposed dwellings will have 60 minute fire resisting separating walls.

In the houses these will be masonry cavity walls separating the two homes. All construction is to be conventional load-bearing masonry walls, with concrete ground-bearing ground floor and timber intermediate floors.

Timber floors will be protected by plasterboard ceilings to give at least 30 minutes fire resistance.

In the flats, these will be twin-wall plasterboard partitions with mineral wool insulation quilt to meet the fire and noise regulations. British Gypsum Quiet IL system or similar. These will separate each flat and common area into independent fire zones, and will separate the flats from the car park area.

Construction will be in-situ reinforced concrete floors and columns with masonry external walls, all inherently fire resisting.

All cavity walls to have fire barriers around openings, between dwellings and all as required by the building regulations.

The commercial unit will have masonry walls separating it from the adjacent escape corridor and around its store room.

The carpark is to be reinforced concrete construction with ventilating brickwork walls. It will have a masonry wall separating it from the adjacent escape corridor. All materials incombustible and fire resisting.

B4. (1) *The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building.*

(2) *The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regard to the use and position of the building.*

External walls are all brick cavity walls, except for the penthouse flats which are finished in zinc cladding.

In the houses, the roof and dormer windows are finished in zinc.

In the flats, the roofs at each level are 'green' roofs on concrete slab. Balconies are concrete, with metal balustrades.

The car park roof is also a 'green' roof on concrete slab

4.0 Means of Warning and Escape - Requirement B1

The requirement B1 of the Building Regulations states:

B1. *The building shall be designed and constructed so that there are appropriate provisions for the early warning of fire, and appropriate means of escape in case of fire from the building to a place of safety outside the building capable of being safely and effectively used at all material times.*

Criteria for means of escape B1.v The basic principles for the design of means of escape are:

- a. that there should be alternative means of escape from most situations;*
- b. where direct escape to a place of safety is not possible, it should be possible to reach a place of relative safety, such as a protected stairway, which is on a route to an exit, within a reasonable travel distance.*

The houses have a room more than 4.5m above ground level. This is accessed via a protected stair which allows safe exit via the front door.

The flats are "Flats served by one common stair" which discharges directly to the public street on Star Road and has a fire brigade openable vent at the top. This is separated from all flats by lobbies ventilated by automatic opening vents operated by smoke detectors. All flat entrance doors are within 7.5m of the stairwell. All flats have an internal fire protected corridor less than 9m long. The stair does not connect to the carpark.

The carpark opens directly on to the street on Star Road and is fully ventilated through 'hit-and-miss' brick walls.

The commercial unit opens directly onto the street at both ends, and therefore has alternative means of escape from all parts and is well within the limitations of travel distance.

Fire detection and fire alarm systems:

All new flats, houses & commercials will be provided with a fire detection and fire alarm system in accordance with the relevant recommendations of BS 5839-6:2004 to at least a Grade D Category LD3 standard.

The smoke and heat alarms should be mains-operated and conform to BS EN 14604: 2005, Smoke alarm devices or BS 5446-2:2003, Fire detection and fire alarm devices for

dwellinghouses, Part 2 Specification for heat alarms, respectively. They should have a standby power supply, such as a battery (either rechargeable or non-rechargeable) or capacitor. More information on power supplies is given in clause 15 of BS 5839-6:2004.

Smoke & heat detectors are to be placed in all habitable rooms, and there should be a compatible interlinked heat detector or heat alarm in the kitchen. All alarms within a house to be linked so that the detection of smoke or heat by one unit operates the alarm signal in all of them. The power supply for a smoke alarm system should be derived from the dwellinghouse's mains electricity supply.

5.0 Access and facilities for the fire service - Requirement B5

The requirement B5 of the Building Regulations states:

- *The building shall be designed and constructed so as to provide reasonable facilities to assist fire-fighters in the protection of life*

Fire appliance vehicles will be able to drive up close to both buildings so that the pump appliance is within 45m of all points within the buildings.

8.0 Conclusions

This development comprises flats, houses, a commercial unit and a carpark. All follow normal practice for their type and will fully comply with the fire regulations as explained in Approved Document B of the Building Regulations, as outlined above.

The flats will comply with the regulations for single stair a block of flats.

The houses comply with escape regulations for three-story houses.

The carpark is covered but ventilated and isolated from all homes and the commercial unit

The commercial unit is a 'small commercial' and has alternative means of escape

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