Fire Engineering Report

The Old Malt House
Banbury
St Johns Road
Banbury
OX16 5HX

On behalf of Omlet Ltd
Wardington
Banbury
Oxfordshire
OX17 1RR

James Tuthill
07917 571006

10/10/2019

Executive Summary

The Old Malt House is located on a residential street on the southern outskirts of the town centre of Banbury. It is a large palladian style building built in 1830 by the Austin Brewery Company. Although currently vacant, the last use of the property was as commercial offices.

The aim of this document is to understand the basic fire safety design concepts so that the design can be accurately assessed and appropriate recommendations made.

It is believed that an appropriate engineering strategy has been developed and can demonstrate that the building satisfies the substantive requirements for fire safety of the Building Regulations.

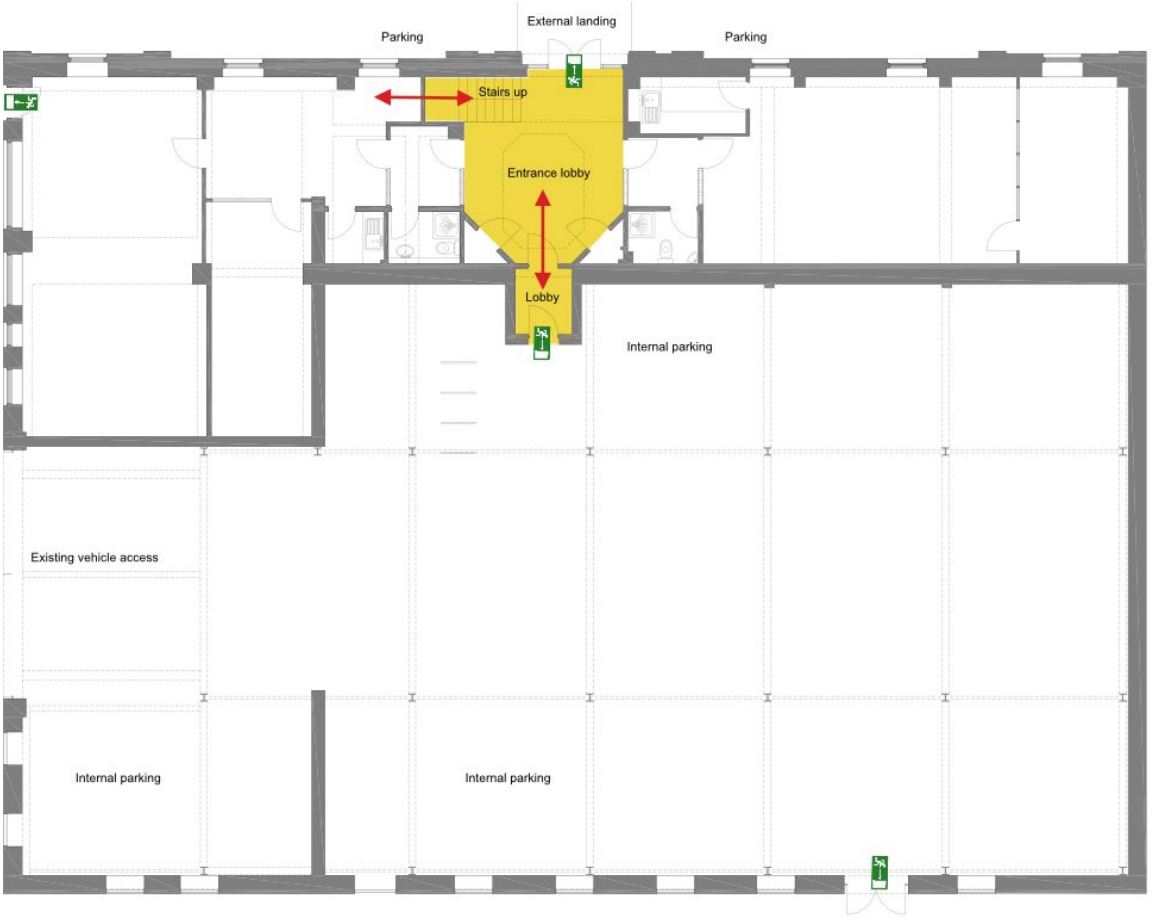
Building Overview

The building is arranged over 3 storeys. The top storey has a height of approximately 5.3m. The ground floor consists of a carpark and two office suites. The first floor consists of a large open plan office, a break room and a design room. The second floor consists of storage and photography space.

The building footprint is 20m x 30m.

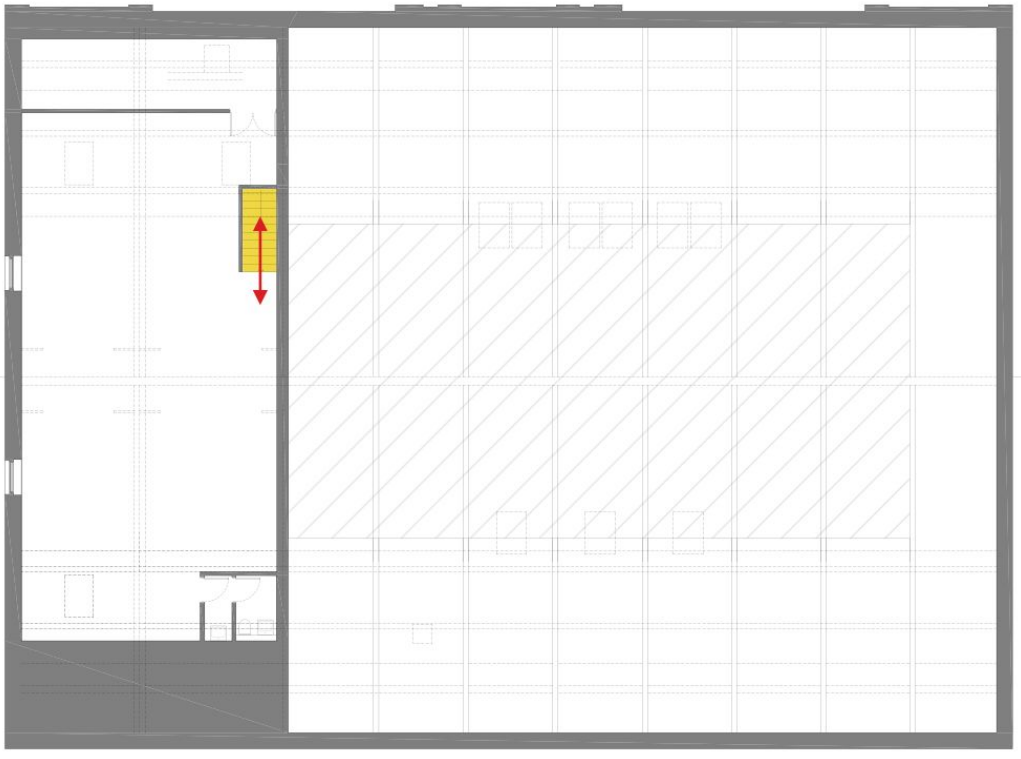
Evacuation Plans

The ground floor has protected fire routes in the lobby with fire escapes at the front, right and rear of the building. The first floor has protected routes from the break area to a fire escape at the ground floor in front of the building and protected routes at the rear of the building and two fire escapes at the rear of the building. The second floor has a fire protected route through the first floor and to the ground floor. The walls to be half hour fire resisting. The doors will be fitted with self closing devices and have signs “Fire Door Keep Shut”. The following diagrams shows the evacuation plans. Protected routes are shown in yellow.



The Ground Floor.

The First Floor

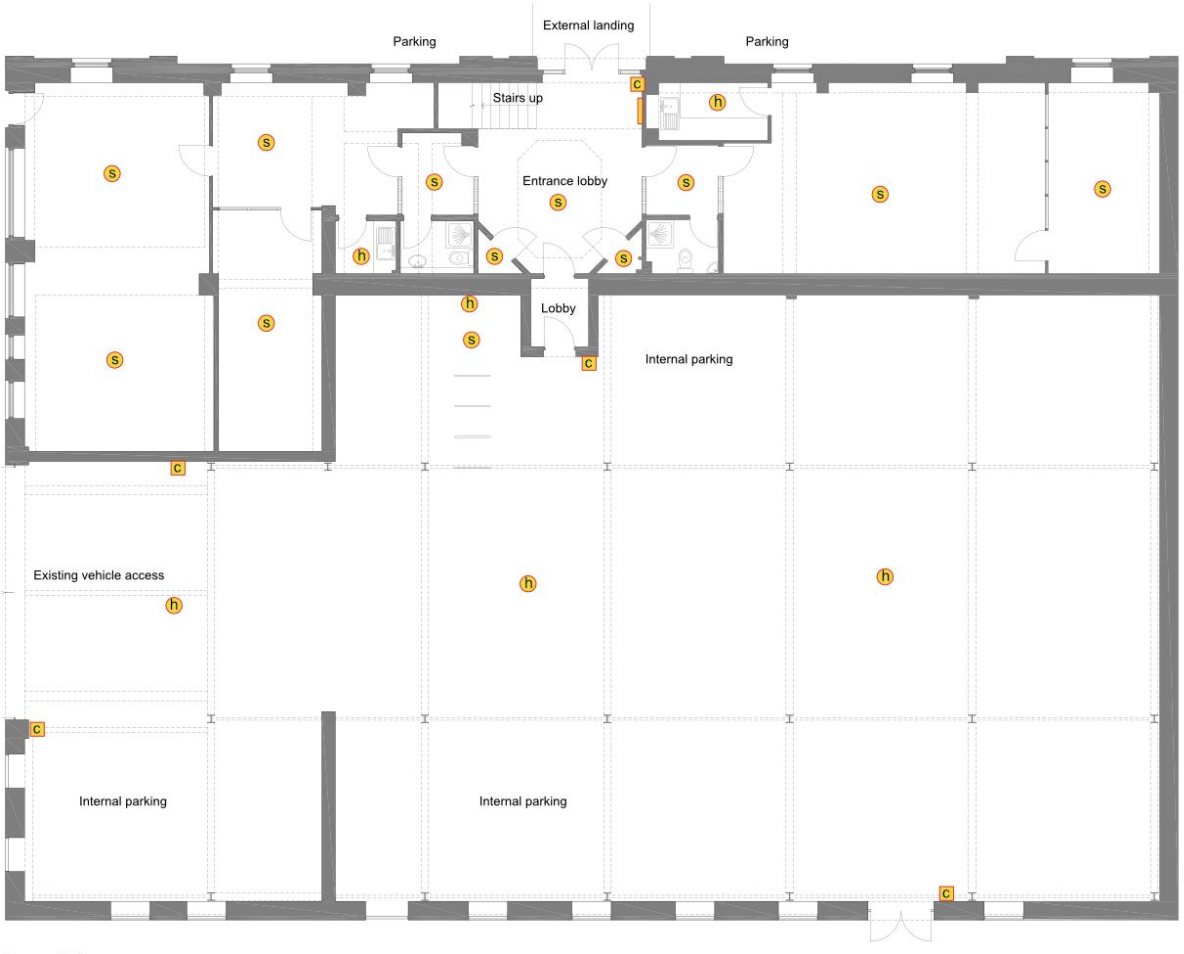


The Second Floor

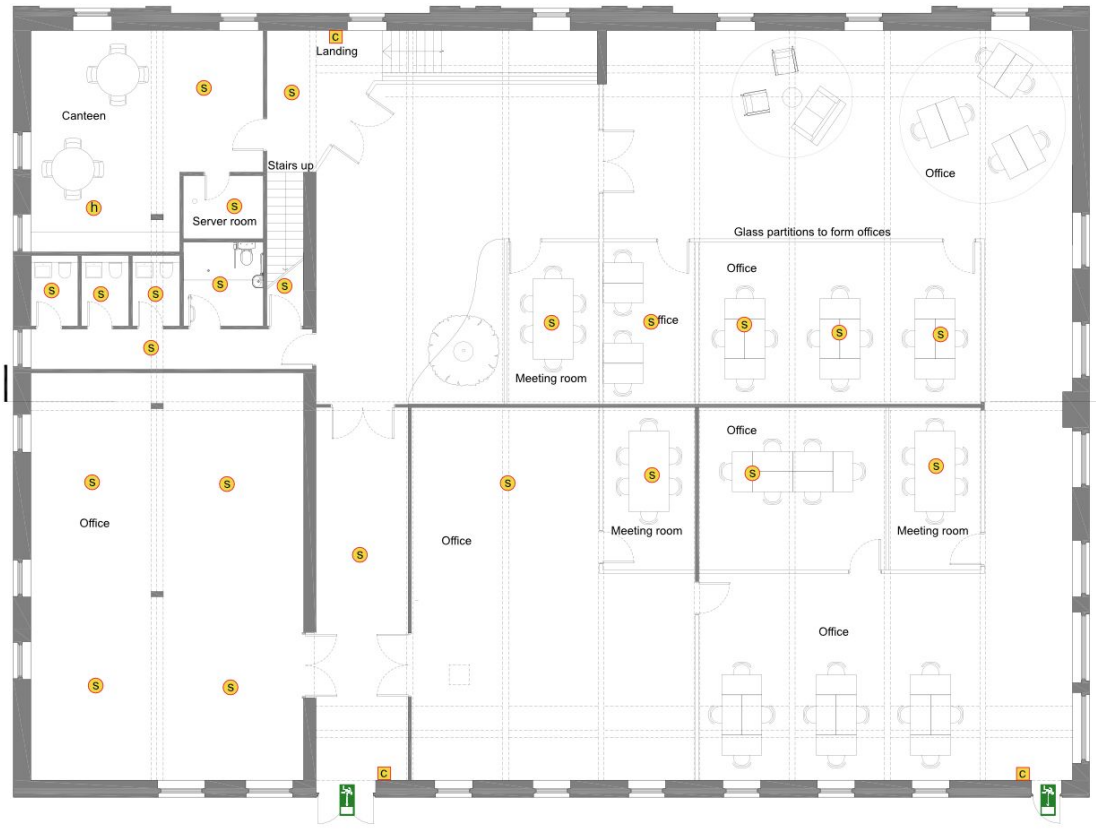
Warning In The Case Of Fire

The building will be fitted with an automatic fire detection and alarm system. The fire alarm has been designed so that there is appropriate provision for the early warning of fire. The system will be an addressable system to allow accurate location of the fire. All the detectors will be fitted with sounders (so that stand alone sounders will not be required). A proposed detector layout is shown below.

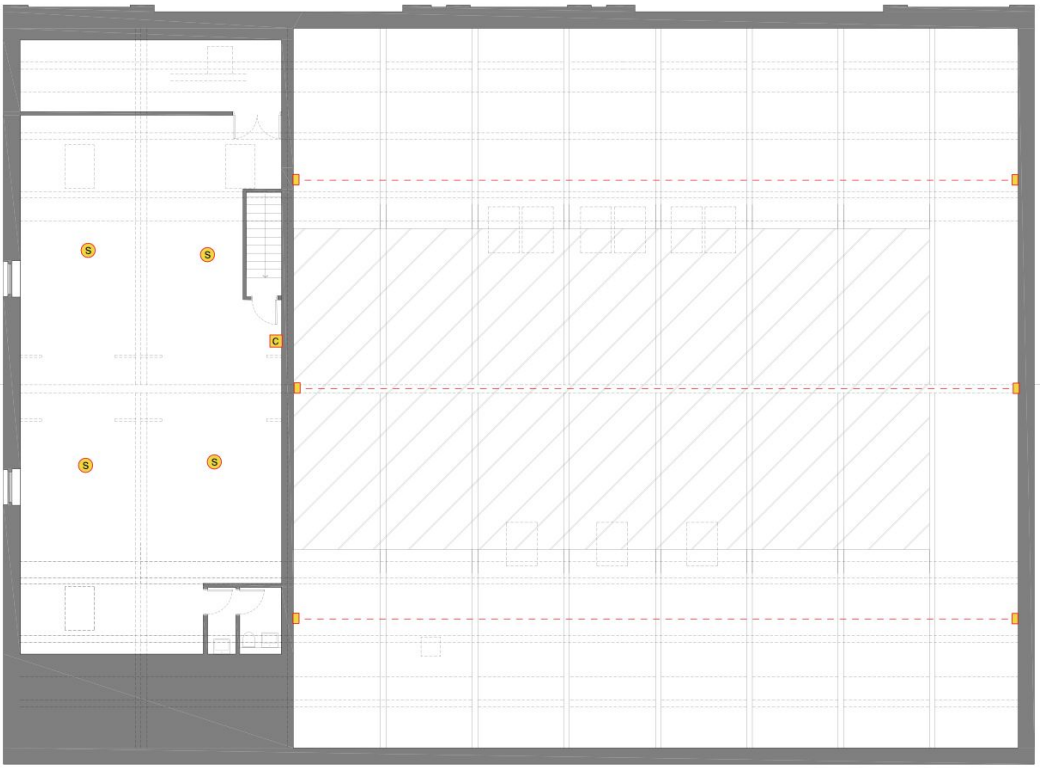
Smoke detectors will be placed in every room, calls points by entrances and exits. The fire panel will be located in the front lobby. Heat detectors will be used in the kitchen areas. On the second floor, laser beam detectors will be used to cover the large open plan area. The system will be commissioned and maintained by an outside fire alarm expert in accordance with the regulations. Every detector will have a built in sounder to alert occupants. In the diagram below (S) is for a smoke detector, (h) is heat and © is a call point and dashed red lines are for the laser beams.



Ground Floor



First Floor

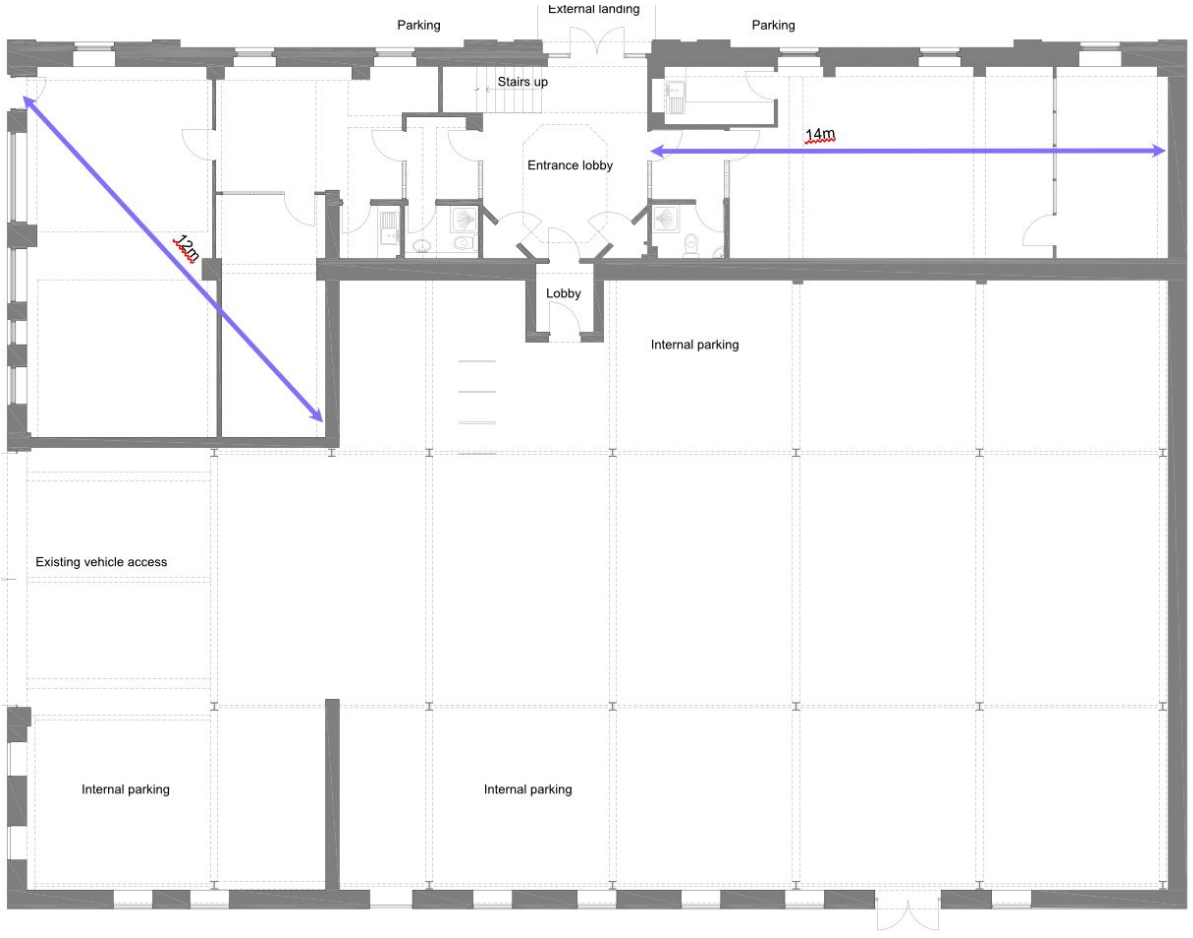


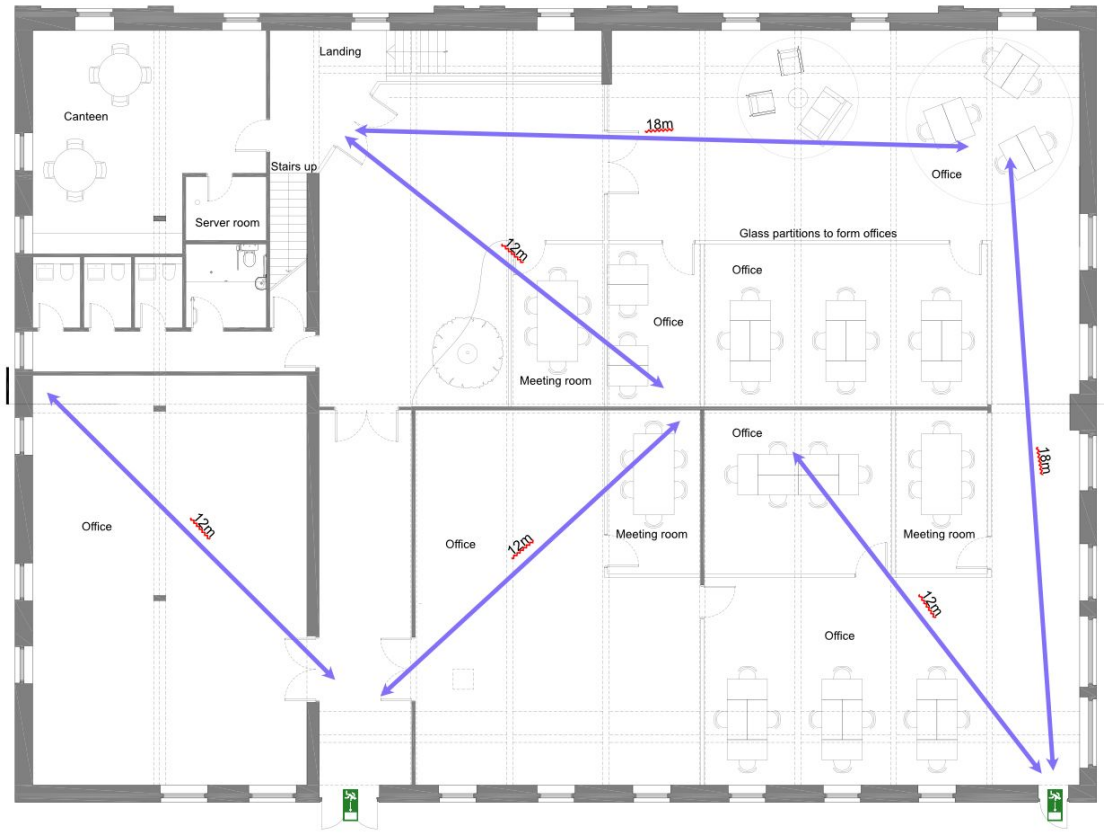
Second Floor

Means Of Escape

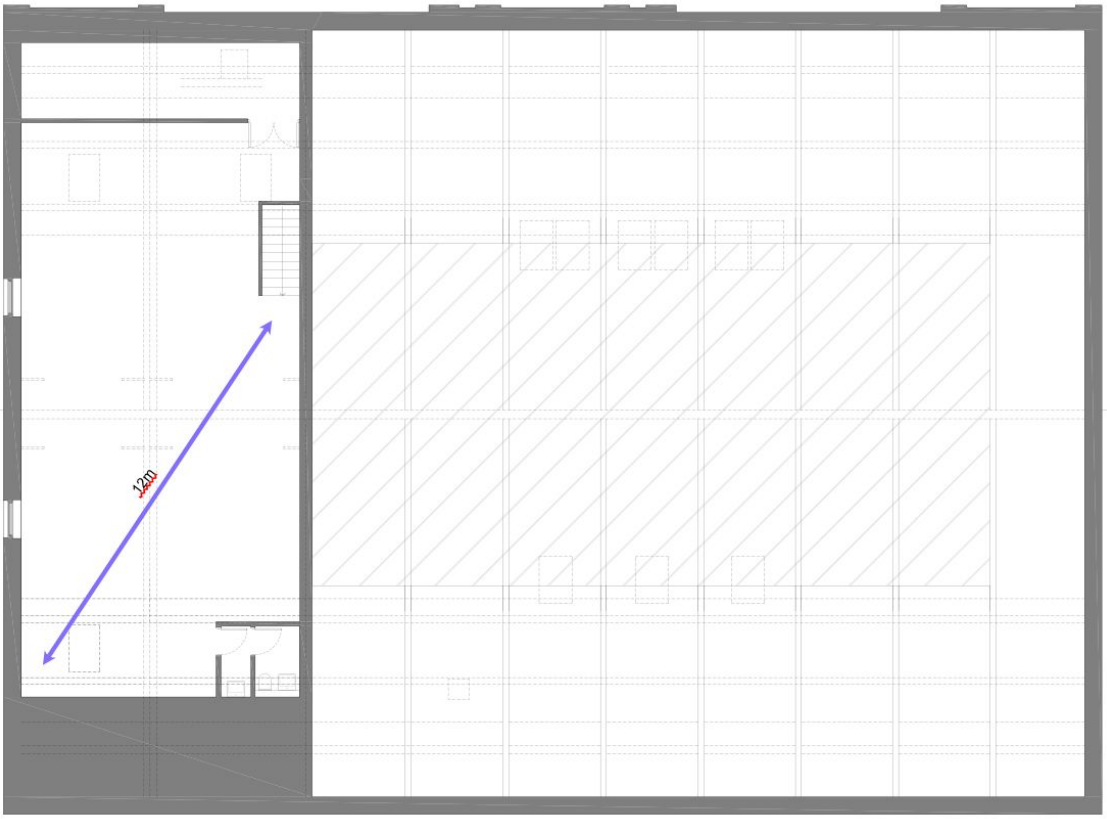
There is a protected route of escape within 18 meters of all occupants.

On the first floor glass partitions will be used to ensure that occupants have a clear view onto all areas including a line of site to a protected route of escape. Further, the occupants have three choices as a route of escape (via the front landing or either fire exits at the rear of the building). Further, the windows on the left hand side of the building provide access to the outside pavement (which rises up to meet the windows). Emergency lighting will be fitted throughout the building as per the regulations.





The First Floor

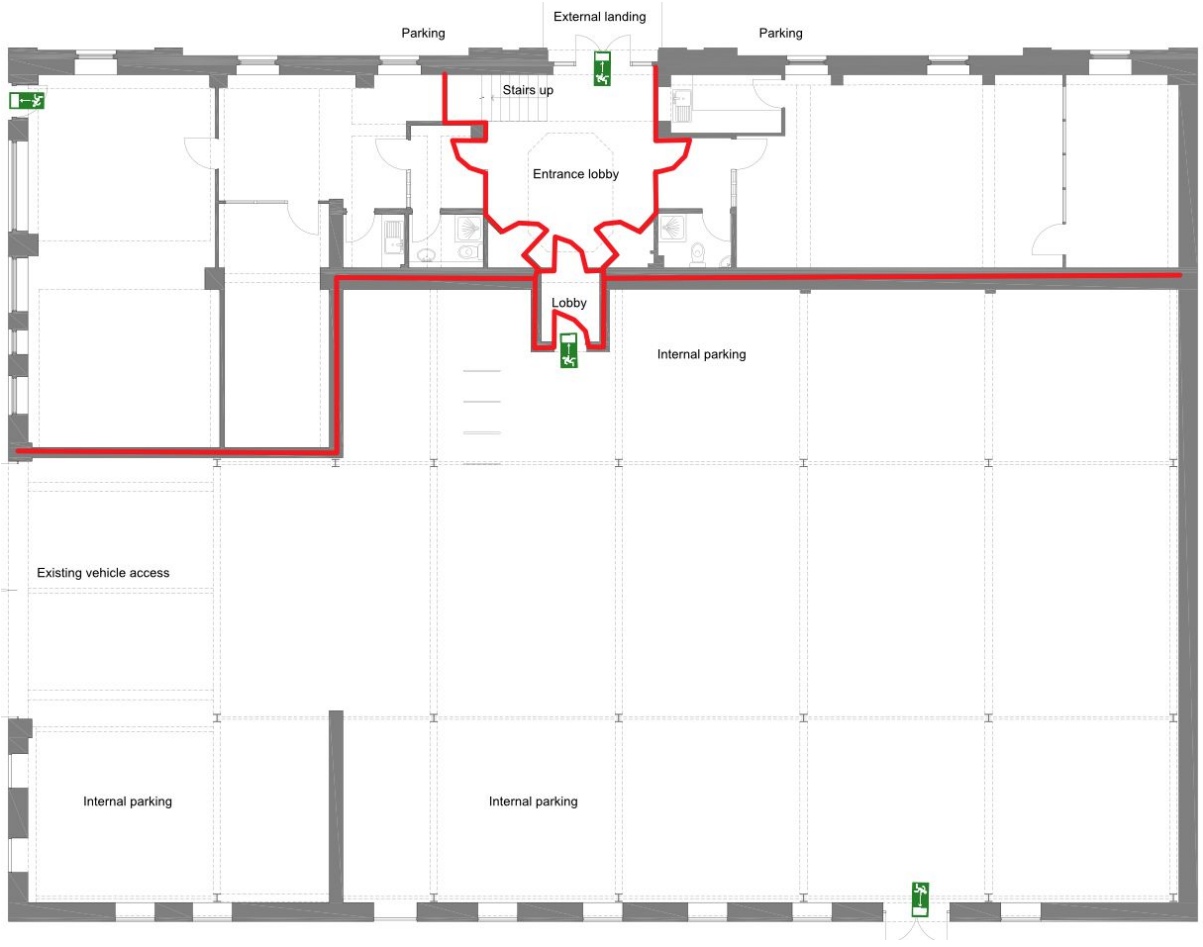


Second Floor

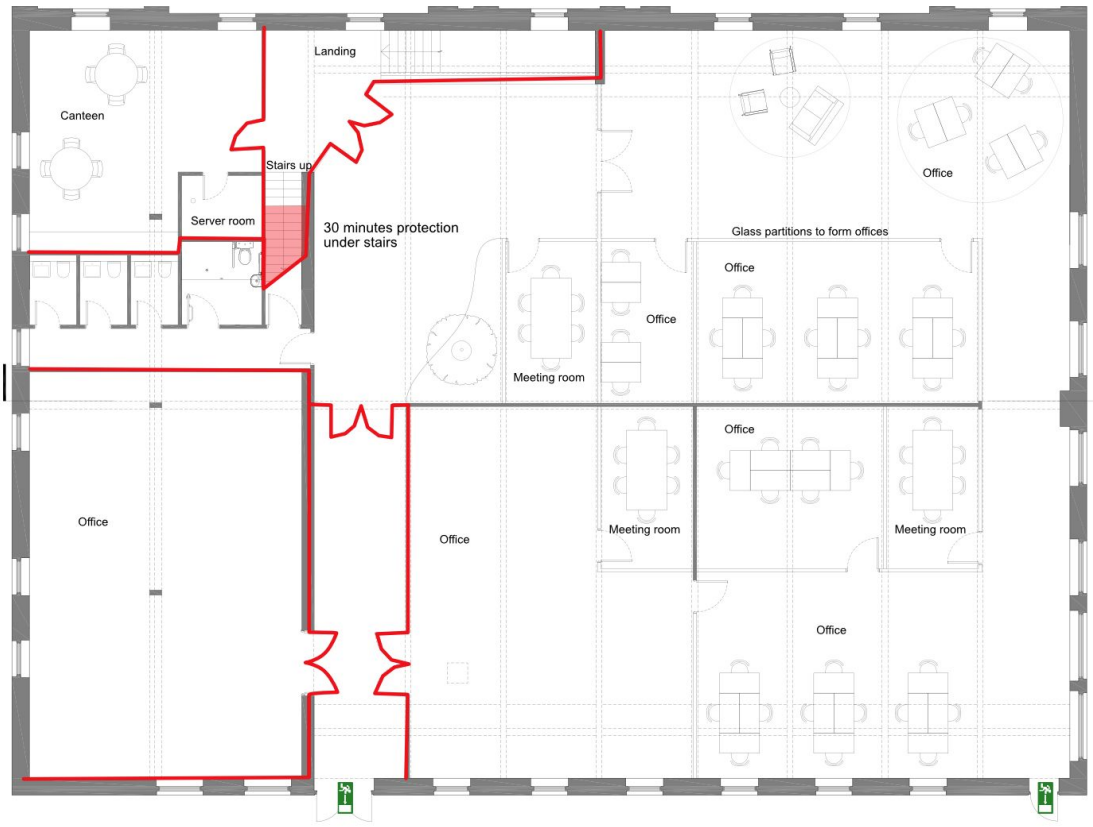
Internal Fire Spread

The building compartmentation has been considered so that, in the event of a fire, the building stability will be maintained for a reasonable period. The compartmentalisation aims to prevent rapid fire spread which could trap occupants of the building and to reduce the chance of fires becoming large on the basis that large fires are more dangerous, not only to building occupants and fire service personnel, but to people in the vicinity of the building. Appropriate fire resisting construction methods will be used to construct the compartmentalisation. The walls to be half hour fire resisting. The doors will be fitted with self closing devices and have signs “Fire Door Keep Shut”. Any glass will be 30 minutes fire-resisting.

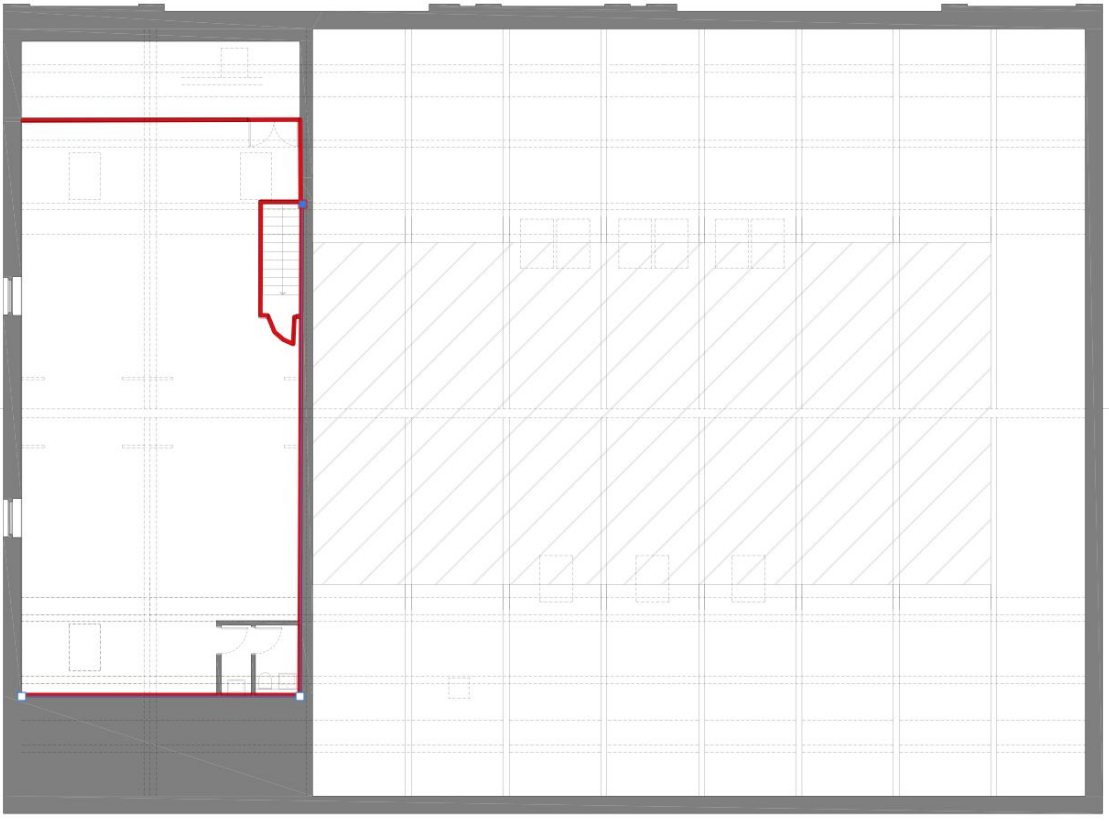
On the ground floor, the walls surrounding the lobby will be made from bricks, fire-resisting glass or double layers of plasterboard. On the first floor, fire resistance glass will be used to provide a protected route on the landing. Stud walls will be constructed from double plaster board or pink plaster board. On the second floor, double plasterboard will be used for stud walls.



Ground Floor



First Floor



Second Floor

External Fire Spread

The building is protected from surrounding buildings. The external walls of the property are adequately resistant to the spread of fire over the walls from one building to another.

Access and Facilities For The Fire Service

As there are not more than 2 floors above ground there is no need to provide fire fighting shafts. General access is assumed to be acceptable as the fire brigade have been on site and not commented otherwise A fire panel is located at the entrance of the building. A plan of the building will be on display at the entrance of the building.