Void buildings and areas





2023 University of Oxford fire risk assessment - Supporting notes

Rep	Report overview		
a.	Select the most appropriate from the list below or enter your own description: - Offices and teaching space - Clinical space - Clinical space with in-patient care - Sleeping accommodation - Laboratories - Access to view books and/or artefacts, and is open to members of the public A small to medium-sized place of assembly, and is open to members of the public.		
b.	Select the most appropriate from the list below or enter your own description: - Stone - Brick - Timber - Steel - Concrete		
C.	Select any that apply from the list below, or enter your own description: - Employees familiar with the premises - Visitors that may be unfamiliar with the premises - Students - Researchers - Members of the public - Patients - Children - Those with limited mobility - Those with a hearing or sight impairment - Contractors working on site - Occupants for whom English is not their first language - Sleeping occupants		
d.	1) - Plant rooms - Laboratories - Kitchens - Workshops - Server rooms - Server rooms - Grinding - Firing - Incineration / use of autoclaves		
e.	Select a maximum of five, beginning from the top of the list: - A sprinkler system - A water mist suppression system - A gaseous suppression system - Automatic fire detection - Automatic smoke extraction - An evacuation lift - Emergency lighting - Fire extinguishers - Evac-chairs - [other – add your own description]		

Action plan – risk assessment tools

Tool 1 – Risk matrix

Likelihood / Severity	Negligible	Slight harm	Moderate harm	Extreme harm	Fatal
Highly unlikely	Trivial	Trivial	Tolerable	Moderate	Moderate
Unlikely	Trivial	Tolerable	Moderate	Moderate	Substantial
Likely	Tolerable	Moderate	Moderate	Substantial	Intolerable
Very Likely	Moderate	Moderate	Substantial	Intolerable	Intolerable
Almost certain	Moderate	Substantial	Intolerable	Intolerable	Intolerable

Tool 2 - Examples

Risk level	Action and timescale	Examples (not exhaustive)
Trivial	Limited action is required and no detailed records need be kept.	Corridor is temporarily blocked by a deliveryChair is placed across a fire exit route
Tolerable	No major additional fire precautions required. However, there might be a need for reasonably practicable improvements that involve minor or limited cost.	 A single fire action notice is missing or not filled in A directional exit sign is missing A single fire door is being wedged open The staircase has non-combustible storage at the base Poor housekeeping
Moderate	It is essential that efforts are made to reduce the risk. Risk reduction measures, which should take cost into account, should be implemented within a defined time period. Where moderate risk is associated with consequences that constitute extreme harm, further assessment might be required to establish more precisely the likelihood of harm as a basis for determining the priority for improved control measures.	 Multiple fire doors are wedged open Fire alarm panel has a fault light showing Electrical sockets are commonly overloaded Exit routes not clearly signed Exit routes not kept free from obstruction Exit capacity being exceeded (too many people in building) Exit doors stiff to open or fire doors not fitting squarely in frame Stair has storage of combustibles at the base No provision for evacuating those with limited mobility Very poor housekeeping
Substantial	Considerable resources might have to be allocated to reduce the risk. If the premises are unoccupied, it should not be occupied until the risk has been reduced. If the premises are occupied, urgent action should be taken.	 The fire alarm system does not work (non-sleeping accommodation) A single fire exit door is jammed shut Combustible storage in stair of single staircase building Hazardous operations at the escape end of a dead-end condition
Intolerable	Premises (or relevant area) should not be occupied until the risk is reduced.	 None of the fire exit doors will open in an emergency Suspected gas or flammables leak The fire alarm system does not work (sleeping accommodation)

Although the purpose of this section is to place the fire risk in context, the two approaches to fire risk assessment detailed above are subjective and for guidance only, and a mixture of both can and should be used.

All hazards and deficiencies identified in this report should be addressed by implementing all recommendations contained in the following summary of findings and action plan.

2.	Identified sources of ignition:
a.	Safe systems could include a fire watch / additional fire extinguishers / permits to work
b.	Lockable bins / bins and combustibles >6m away from buildings / CCTV / security
C.	Generally found on taller buildings. Estates Services Mechanical and Electrical Design Philosophy 9 states: All new and refurbished buildings shall have lightning protection systems which comply with the requirements of BSEN 62305:2006.
d.	Smoking indoors is prohibited / The site is a non-smoking site / There designated areas outside the building
e.	Metal bins / ash trays / buckets of sand
f.	Smell of cigarette smoke inside the building / ashtrays inside / cigarette butts / smoking materials
g.	What control measures are in place? Guidance to occupants regarding safe charging? Prohibition of charging EVs in basement car parks? See further guidance here .
h.	Extension leads being 'daisy-chained' (plugged-into each other), long extension leads that are being used whilst still wound on their drum, overloading of the socket – 1x wall mounted plug socket can safely power a max of 13amps.
i.	Check under desks and in bedrooms, and if there are heaters stored away in the warmer months. Note if they are oil-filled radiators or fan / convection heaters etc.
j.	Use this box to note anything not previously listed or considered.

3.	3. Identified work processes:			
Thi	This section is concerned with contractor and maintenance work taking place on the premises			
a.	Is there a safer alternative to any identified higher risk processes taking place?			
b.	List any relevant additional qualifications / courses attended / additional training provided.			
C.	Is there a specific risk assessment in place for the higher risk activity and have those working in the area / involved with the process have an understanding of its contents? Is there signage displayed offering further guidance / warnings etc.?			
d.	Estates have a hot works permit system but only for works undertaken by University staff or contractors directly employed by Estates (this is the same form for both). Check if your department has a HWP system in place and include a copy of the form.			
e.	Controlled access to plant rooms / contractors signing-in and/or being accompanied / preferred suppliers & contractors / method statements.			
f.	Are there other tenants in the building (over which the University has no control) that may have higher risk activities taking place? A restaurant with a commercial kitchen, or a work shop etc.?			
g.	This doesn't apply to batteries present in laptops, mobile phones etc. More for areas where are large bank of batteries may be present (UPS systems, emergency lighting inverters and central battery systems etc.). Is there a pre-determined procedure for their safe containment if they should become involved in fire? Adequate ventilation to prevent overheating and thermal runaway?			

4.	Identified sources of fuel:
a.	Consider wooden panelling / artificial foliage / polystyrene tiles / flock wall paper etc.
b.	Restricted access to plant rooms / store rooms etc.? Regular inspections?
C.	Record signs of continued build-up of combustibles / storage of combustibles in inappropriate areas.
d.	Overflowing bins / baled cardboard / waste packaging, especially in IT rooms and plant rooms. Consider internal and external areas. Contractors' waste.
e.	Combustibles such as bins, pallets etc. should be at least 6m away from the building. Note any flammable gas cylinders, but these will be detailed later in the report
f.	These are the metal-skinned panels with an insulating core, often used in industrial buildings:
g.	Is the building thatched / timber-clad / timber-framed / possibly clad with Aluminium Containing Materials (ACMs) – see below:
h.	Are there gas detectors in plant rooms? Is the gas shut off automatically or manually in an emergency?

Use this box to note anything not previously listed or considered.

5.	Hazardous substances present:
a.	Provide details of any flammables stored in significant quantities: name of substance / quantity / storage arrangements / location of specific COSHH risk assessment if available.
b.	Note if these controls appear to be ineffective / are being ignored.
C.	Specific risk assessments in place? Authorised, competent personnel only?
d.	Solvent-free paints, for example?
e.	Only the smallest amount necessary should be stored.
f.	Any evidence of stock-piling?
g.	Bunded COSHH cabinets? Correctly labelled? More advice can be found here: COSHH Essentials - COSHH e-tool (hse.gov.uk)
h.	Further guidance on the safe storage of LPG can be found here: <u>Liquefied Petroleum Gas health and safety</u> <u>guidance (hse.gov.uk)</u>

6. Additional sources of oxygen present:

Provide any relevant details including quantity, location, storage arrangements, and note any concerns. More information can be found here: Oxygen use in the workplace Fire and explosion hazards: Fire and explosion hazards (hse.gov.uk)

Structural fire hazards: Suspended ceilings / floor voids / roof voids etc. a. This is the scenario where a room is within a room, and not accessed directly off a corridor. In such an arrangement, any one of the control measure detailed in red should be in place to mitigate the risk. This should be noted in the FRA. Automatic fire b. gap between partition wall and ceiling Note if the building is listed. If known, note any additional requirements of Building Control, such as C. suppression system due to inaccessibility by the fire and rescue service. Raised/timber floors, voids behind panelling, roof voids etc. d. Is the building thatched? Have a timber frame? Is there combustible cladding? e. This is relevant to note as poorly-maintained lath and plaster walls and ceilings can contribute to unseen fire f. spread in the event of a fire. Just a yes / no / n/a is sufficient here - tick the applicable box once you have completed 11e g. Note if the premises is in a remote location that would take the fire and rescue service an extended period of time to attend. Is the access to the premises such that a fire engine can not get closer than 45m from the h. building?

8. Details of those at risk from fire:

i.

This list is not exhaustive so include details of any other occupants you feel may be at greater risk if faced with a fire situation, and why.

For buildings with occupied areas: tick all that apply, and detail below the number of occupants likely to be on the premises. This could be on a day-to-day basis but also add if there is the potential for special events that could see the numbers of occupants rise significantly.

If applicable, you may wish to record how the number and type of occupants may change throughout the day; for example:

- 0800-1700 – 120 Staff members, 100 students

Use this box to note anything not previously listed or considered.

- 1700-0800 - <10 staff and students

For void spaces, list the number of VMT members and contractors likely to be within these areas, how frequently, and for roughly how long. Note any control measures in place such as radios for lone-working.

9. Means of escape:

Fire Exit checks:

- Fire Exits should be clear of obstructions remember to check outside as well for parked cars, skips, scaffold, rough sleepers etc.
- They must not require a key to open them. Keys in boxes are not acceptable.
- Thumb-turn locks are acceptable in staff-only areas, and must be signed.
- Note if there is a ceramic / 'Redlam' bolt in place.
- If the doors are access-controlled, check that in the event of the fire alarm sounding the <u>FINAL EXIT</u> DOORS REMAIN LOCKED
- Access-controlled doors must have a green emergency break-glass button next to them to enable escape should the day-to-day push-button fail.
- Are the Fire Exits signed as such?









Consider gates if fire exits disperse occupants into gardens or secure yards. Are these easily and immediately openable without the use of a key or code?

c. This will be a 'yes' unless the void area is likely to have more than 60 occupants!

Basic rules to consider:

Ь.

d.

e.

- A route in a single direction of escape should be no greater than 18m in a normal risk area. This is reduced to 12m in an area of higher fire risk (plant rooms, labs, kitchens etc.)
- Where more than one direction of escape is available, a route can be extended to 45m in a normal risk area. This is reduced to 25m in an area of higher fire risk.

Escape routes should be measured from the furthest point of a room to the nearest final exit (or storey exit in the case of an upper or basement level) and should be the actual route taken; not 'as the crow flies')

Basic rules to consider:

- Stretches of corridor that lead from a dead-end should be protected by fire doors.
- Unless it is an open 'accommodation stair', stairwells should be protected routes with fire doors at each level and are free from combustibles and sources of ignition 'fire sterile'.
- Escape routes should not lead occupants through high-risk areas such as plant room, labs, or kitchens.
- If external escape routes pass in close proximity to windows and doors (<1.8m), i.e. down an external fire escape stair, or along a narrow alleyway along the side of the building in one direction, then these windows and doors should be fire resisting. (See point 7q)
- f. Use your answer from 7b.

9.1	9. Means of escape (continued):			
g.	Emergency lighting provision? / Basements / un-fenestrated areas? / External areas / assembly point?			
	Hours of occupation – consider shorter periods of daylight over the winter, special events happening in the evenings.			
	What 'borrowed' lighting is available (street lights etc.?)			
h.	Junk mail / deliveries / stock / rubbish awaiting collection / trailing cables / leaves / moss / algae etc.			
	Would an occupant who is unfamiliar with the layout of the building be able to find their way out using the signage displayed? Is there enough? Can it be clearly seen?			
I.	Check the signage is pointing in the right direction!			
	Signage should direct occupants to the nearest fire escape route out of the building.			
j.	In instances where a neighbouring building / occupancy needs to pass through the building (or vice versa) or a stretch of escape route is shared, is this being managed and if kept secure on a day-to-day basis, will it be easily and immediately available for use in the event of a fire? Give details.			
k.	Use this box to note anything not previously listed or considered.			

10.	10. Means of detecting and giving warning of fire:			
a.	If a fire is discovered, an alarm must be raised in such a way that everyone occupying all parts of the building can hear it or can be made aware the alarm has been raised.			
b.	A simple shout of 'FIRE FIRE FIRE' / an air horn, gong, or manually operated bell / an electronic fire alarm system with manual break-glass call points linked to bells or sounders located throughout the building.			
C.	Consider areas with loud noise levels / remote areas of the building / occupants with hearing impairment / occupants wearing ear protection or headphones.			
d.	Consider different occupants – contractors etc.			
e.	As a rule, manual break-glass call points should be located on each floor of a building / no more than 30m from any point in the building / next to each final exit leading to fresh air, and in areas identified as high-risk (i.e. a plant room or kitchen)			
f.	Manual break-glass call points are red and should be no higher than 1.4 metres above the floor and in a visible and accessible location. Check they are not hidden from view by blinds or curtains. If this is the case, additional signage may be required.			
g.	You may find there is automatic fire detection along escape routes leading to and from key areas and equipment that require access for maintenance. This won't always be present, so just record what it there.			

10. Means of detecting and giving warning of fire (continued):

There are a number of ways in which a fire can be detected:

- By a person seeing / smelling / hearing the fire occurring
- Smoke detection no circle:



- Heat detection – one circle:



- Multi-sensors – 2 circles:



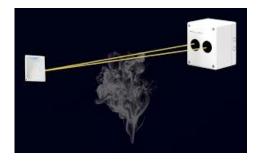
- Bedrooms and flats may be fitted with a 'domestic' fire alarm and detection system. Smoke detectors are flat, heat detectors will have a protruding element.

kitchen, and an aspirating system in the book stack'.

Aspirating system:



Beam detection system:



Smoke

Please record an overview of what method of detection is in place; i.e. 'Smoke detection in all rooms and corridors with heat detectors in the kitchen and plant room.' Or 'Smoke detection in the office areas, heat detection in the plant room and

Heat

i. All University buildings are monitored by Oxford University Security Services. The level of their response will depend on the nature of the building and the time of day – more information can be found here

The void building or space may be fitted with a 'RemoteZone' unit which sits close to the entrance of the building. This consists of automatic smoke detection and PIR movement sensors and will provide a signal monitored by OUSS in the event of intruders or smoke and fire within the building. This is purely a property-protection measure, and not for life safety. If you have concerns regarding unauthorised access which could result in arson, and there isn't a RemoteZone system installed, it would be worth recommending this in your action plan.

h.

j.

11. Means of separating areas of higher fire risk and restricting fire spread:

Think about where the risk from fire is highest:

- On an upper (or basement) level of a building.
 - Areas with higher-risk activities or equipment.
 - Areas from which the means of escape is limited.

Fire doors are required wherever a doorway passes through a compartment wall, usually in the scenarios listed in c. above.

- As a rule, the door should offer the same minimum level of fire resistance as the wall in which it is fitted.
- Fire doors are categorised by their level of fire resistance in minutes FD30, FD60.
- An FD30s provides 30mins fire resistance and is also fitted with cold <u>s</u>moke seals (a requirement in most instances).
- If a wall or ceiling is of masonry construction, or a plastered stud wall, it is considered to be fire resisting.
- Lath and plaster walls and ceilings will provide 30mins fire resistance, unless damaged.

Items to check when assessing a fire door include:

Gaps:

a.

b.

- The door should fit squarely within its frame.
- The gaps at the top and both sides should be less than 4mm. Use a £1 coin to give a feel for scale, this is about 3mm thick.
- The gap at the bottom of the door can be larger, up to 15mm to cope with sloping floors.

Seals:

- Are there intumescent (plastic-looking) strips either along the edges of the door leafs or set into the door frame?
- If so, are they in good condition or are they missing in some places?
- Some doors may have cold smoke seals. These could be fuzzy brushes or rubber blades. Note if these have become damaged.
- Check the smoke seals fill the gaps.
- Also note if the intumescent strips and smoke seals have been excessively painted-over.
- If the doors appear to be fire doors but have no intumescent strips or seals, do they have a 1" stop? This is a chunky piece of door frame that the door will close onto.

Hinges:

C.

- All hinges should be firmly fixed with no missing or broken screws.
- The hinges should be undamaged and not showing signs of excessive wear.
- If the door is not square in the frame push the latch edge to see if the top hinge is loose.

Self-closers:

- Does the door have a functioning self-closer?
- Does the door close fully, without assistance, into its frame? It may be warped, twisted, or the self-closer may not have enough pull to overcome the latch.
- Open the door about halfway and then let it go to make sure it self closes effectively.
- Check auto doors close on fire alarm activation (this should happen during the weekly fire alarm test).

Hold-open devices:

- Check the device releases by pressing the button, and that the door closes fully into its frame

General:

- Is there any damage to the face of the door? Holes from locks being removed, for example.
- Is there a blue 'Fire Door Keep Shut' (or similar) sign displayed?
- Are any glazed elements intact, and are either Pyro glass, or are Georgian wired glass?
- If they are pyro glass there will be a British Standard stamp in the corner of the glazing with the word PYRO mentioned somewhere.

11. Means of separating areas of higher fire risk and restricting fire spread (continued):

- The diagram below shows each of these features. Don't worry about the door furniture or hinges needing to comply with the British Standard, or the presence of a drop-down seal at the foot of the door. These items are only relevant if the door is brand new. To expect existing doors to meet the BS in these areas is unrealistic.





C.

Operate hold-open devices to assess functionality. Also check they operate automatically and that this is recorded in a log book.



Check for gaps between and around door leafs

11. Means of separating areas of higher fire risk and restricting fire spread (continued):			
d.	Consider combustible cladding, barbeques on balconies etc.		
e.	Is there adequate fire separation (fire resisting walls, fire doors) between labs and the rest of the building?		
f.	Is there adequate fire separation (fire resisting walls, fire doors) between kitchens, workshops etc. and the rest of the building?		
g.	Is there adequate fire separation (fire resisting walls, fire doors) between plant rooms, service risers etc. and the rest of the building?		
h.	Use this box to note anything not previously listed or considered.		

12. Means of fighting fire: Correct provision of fire extinguishers: A minimum of 1x 6l water and 1x 2kq CO² must be provided on any floor up to 200m² Above 200m² a set of 1x6l water (or foam if that is what has been provided) and 1x 2kg CO² must be accessible within 30m of all areas of the floor These would usually be found on escape routes (next to fire exits / storey exits) a. Specific additional extinguishers are required in higher risk areas: CO² in plant rooms, server rooms Wet chemical in kitchens with deep fat fryers If a specific high-risk activity (with regards fire) is known to take place in labs, there should be appropriate firefighting media – check safety data sheets. All kitchens and labs should have a fire blanket provided Departments are expected to have nominated fire wardens who will have received training in the use of fire b. extinguishers. Students / graduates / residents are not expected to use fire extinguishers. Fire extinguishers should be either wall-mounted or stood on a red plastic stand. They should be signed – C. this way, if one goes missing, it is easy to identify what needs to be found / replaced. Extinguishers should be conspicuous, in a well-lit area, and accessible. Keep an eye out for extinguishers and fire blankets too close to the likely location of a fire (fire blankets on the wall behind the hob, for example.) d. Check they're not hidden behind curtains or furniture etc. A weekly check should be taking place to ensure they are in their designated location, and the tamper

tags are in place, and the needle is in the green on the gauge (if applicable)

Use this box to note anything not previously listed or considered.

e.

f.

manage this contract.

Fire extinguishers should be serviced on an annual basis. This tends to be carried out by Abbott Fire. The DLO

13.	13. Emergency plan:			
a.	The University Fire Safety Management Policy states: 'Suitable evacuation procedures will be documented and in place for every building, including laboratory teaching space, residential accommodation, embedded space, office, store or any other building, or part of a building managed by the University.'			
b.	The University Fire Safety Management Policy states: 'Everyone working in a building will be provided with a suitable induction to ensure they understand the evacuation procedures.' and 'Everyone working in a building will be expected to respond in accordance with the building's evacuation procedures. Those who have yet to receive induction training will be supervised by others to ensure they respond appropriately.'			
C.	The University Fire Safety Management Policy states: 'All those assisting in the evacuation of a building will have attended a suitable level of training, provided either by the University Safety Office, area or divisional safety officers or the departmental fire officer. Individuals will undertake refresher training every five years.'			
d.	'Fire Action' notices should be displayed next to each fire alarm manual call point.			
e.	Ensure the notices contain relevant information; i.e. do they mention lifts when buildings don't have lifts provided? Check the location of the assembly pint is still correct. Check that anything written in pen hasn't faded.			
f.	 Points to consider when assessing the location of assembly points: Is it at least the height of the building away in terms of distance from the building? I.e., if the building is 9m high, the assembly point should be at least 9m away. Is there room for people to gather safely? Narrow pathways in busy city-centre locations, next to the road may not be ideal. Do people need to cross a busy road to reach the assembly point? Is the route to the assembly point adequately lit? Borrowed light is acceptable. 			
g.	Use this box to note anything not previously listed or considered.			

14.	Fire safety policy:
a.	Yes; the policy can be found here: <u>UAS Mosaic Document Hub - 01 Fire safety management v1.0 - March 2021.pdf - All Documents (sharepoint.com)</u>
b.	It is available to view on the University Safety Office website.
C.	Yes, the current version was issued in 2021.
d.	New starters will be sign-posted to the Safety Office website.
e.	
f.	Voc. all of this is contained within the University Fire Safety Management policy
g.	Yes; all of this is contained within the University Fire Safety Management policy.
h.	
i.	Sign-posting of the Fire Safety Management Policy forms part of the staff induction process.
j.	University Estates Services have an induction document for contractors to sign. This sets out the control measures required in order to undertake hot works.
k.	Yes; all fire alarm signals are received by OUSS and handled accordingly. A report is generated for each which is used to identify trends and to action any remedial works required.
l.	Use this box to note anything not previously listed or considered.

15. Fire safety training:		
a.	Yes, the iHASCO Fire Awareness e-learning package is available online for completion by all new starters	
b.	Yes, the iHASCO Fire Awareness e-learning package is available online for completion by all staff every five years	
C.	Yes, the University Fire Safety Management Policy states: - 'All those assisting in the evacuation of a building will have attended a suitable level of training, provided either by the University Safety Office, area or divisional safety officers or the departmental fire officer. Individuals will undertake refresher training every five years,' and	
d.	 'All responsible persons, departmental fire officers, and competent persons will attend a suitable training course provided by the University Safety Office. Individuals will undertake refresher training every five years.' 	
e.	University Estates Services have an induction document for contractors to sign. This requires that any employees undertaking hot works must be competent to do so.	

16. Maintenance programme and record keeping for preventative and protective measures:	
a.	General checks of void areas are required by University insurers and are to take place every seven days.
b.	Should be taking place on a monthly basis, with a record kept.
C.	Should be taking place on an annual basis, with a record kept.
d.	Should be taking place on an annual basis, with a record kept.
e.	Should be taking place on an annual basis, with a record kept.
f.	Should be taking place on an annual basis, with a record kept.
g.	Should be carried out on a five-yearly basis, with a record kept.
h.	A Gas-Safe certificate should be issued on an annual basis.
i.	Should be carried out upon induction, and on a five-yearly basis thereafter, with a record kept.