Fire Safe International Ltd

in association with

Consus International Ltd

Atcham Business Park
Shrewsbury SY4 4UG England

Fire Risk Assessment with Recommendations

Highlands College
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Jersey
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The following paragraphs detail the existing conditions, with regard to fire safety, found at the site referred to above. The report follows the guidance set out in the UK Government Fire Risk Assessment Guide, "Educational Premises ISBN-13: 978 1 85112 819 8". The guide refers to the elements to be included to satisfy the Regulatory Order (Fire Safety) 2005. In addition, recommendations are made where the application of "best practice" applies.

The Responsible Person is in charge of ensuring that everyone on the premises (employees, visitors, members of the public) can safely escape in the event of a fire. They must pay particular attention to anyone needing special help, such as disabled people, the elderly or children.

The Responsible Person's role includes:
- making sure that a full fire-risk assessment is carried out to identify possible hazards.
- assessing particular areas of risk such as employees (disabled members of staff) or materials (chemicals, inflammables).
- making a plan to deal with emergencies.
- recording and reviewing their findings.

1 Comments, observations and recommendations common to all areas.

This Report follows a Fire Risk Assessment carried out on 7 October 2008 at the above premises. It was carried out at the request of Mr F Coote of the Property Holdings Department. Once any work contained within the Recommendations has been completed it should be recorded to show that it has been acted upon.

1.1. Description of the site and the buildings. The site is a Further Education and Higher Education College Campus. There are a number of buildings of various construction which will be described in the second part of this Fire Risk Assessment. The main site is accessed from Bagatelle Road and Wellington Road. The D'Hautree part of the site is accessed from St Saviours Hill which is designated A7 and runs alongside the site.

1.2. Description of the processes carried on. The buildings are used for education in various subjects for persons from 14 to 80 years of age. The processes carried on in the various buildings will be described in the second part of this Fire Risk Assessment.

1.3. Location of the nearest fire fighting water supplies. Underground hydrants are in the roadways adjacent to the site. They are fitted to a 100 mm water main.

1.4. Location of the nearest fire station. The nearest fire station is Central St Helier of the Jersey Fire and Rescue Service. The attendance time to this site is between 5 and 10 minutes, depending upon the time of day and the traffic.

1.5. Access for fire appliances. There is good access for fire appliances to the east and west of the site, and around the buildings. However, vehicles approaching from either direction do not have links with the other half of the site, i.e. vehicles using the west entrance would not be able to access the east of the site and visa versa.

1.6. The number of persons using the premises. There are approximately 200 staff with 800 students and visitors. Up to 25 contractors could be working on the site.

1.7. Reporting and investigation of incidents. All accidents and incidents are reported, investigated and documented.

1.8. Fire safety records. Fire safety records were not available at the time of the Fire Risk Assessment. It is understood that the details of fire drills carried out 3 times a year are recorded, but it was not clear how other records are kept.

1.8.1. **Recommendation. (Low Risk).** Action taken with regard to the fire safety of the premises should recorded, preferably in a customised 'fire log book'. The records should include:

1.8.2. The results and remedial action taken, with regard to the monthly fire safety survey carried out by the Fire Warden.
1.8.3. The details of the fire alarm tests, or any other alarm system in operation.
1.8.4. The details of the maintenance of the fire alarm system.
1.8.5. The details of the test and maintenance of the emergency lighting system.
1.8.6. The details of the maintenance of the fire fighting equipment.
1.8.7. The fire safety training undertaken. (If any).
1.8.8. Visits by an Officer of the Fire Authority.

1.8.9. The details of any fire which may occur.

1.8.10. **Recommendation: (Low risk).** It is important that the records are available to the local authority fire officer should he require sight of them during an inspection visit. It is also important that they survive any fires that may occur. It is therefore recommended that a copy of the fire safety records are kept either in a remote location or in a fire proof safe in order to preserve them for any enquiry or court proceedings.

1.9. Records of installations other than fire suppression systems e.g. central heating boilers; water, systems, air conditioning, refrigeration units, hoists, engineering equipment etc. should also be kept up to date. It has been shown that the electrical devices fitted to this type of equipment can become defective, causing a fire. The ensuing enquiry has required sight of the maintenance records in order to find the cause of the fire.

1.9.1. **Recommendation: (Low risk).** These records should be retained as in paragraph 1.8.1.

1.10. Fire evacuation procedure. The fire evacuation procedure has been compiled and is displayed on fire action notices around the site.

1.10.1. **Recommendation: (Intermediate risk).** The procedure should be issued to every member of staff so that the occupants will be aware of the procedure to follow in the event of an emergency.

1.10.2. **Recommendation: (High risk)**. Consideration should be given to recording all staff, contractors and visitors entering and leaving the buildings, so that all occupants can be accounted for in the event of an emergency.

1.11. Location of the emergency assembly point. There are 2 emergency assembly points, one in the car park adjacent to Nightingale building, and one in the car park adjacent to the Brunell building. The fire action notices indicate the assembly point which should be used for a particular building.

1.12. Door security system. The doors on escape routes open normally. There is no electronic key system.

1.13. Ventilation system. Ventilation is mainly by means of natural air flow. Where an air management system is installed in a building it will be referred to in the second part of this Fire Risk Assessment.

1.14. Heating systems. The buildings are heated by various means; oil, gas or electric.

1.14.1. **Recommendation: (Intermediate risk).** Advice should be given to the occupants with regard to the safe use of heating systems and equipment. This is particularly important in the case of gas supplies, as a major gas leak and subsequent explosion will affect the whole of a block.

1.15. Electrical circuits and portable equipment. The electrical system is tested at annual intervals. The portable appliances are tested at annual intervals by accredited contractors under the direction of the Property Holdings Department.

1.15.1. **Recommendation:** (High risk). In order to eliminate the sources of ignition the electrical circuits should be inspected and tested at regular intervals. The tests should be carried out and reported upon by a competent engineer in accordance with The Institute of Electrical Engineers Guidance Note No.3 'Inspection and Testing'. There should be a preventative maintenance plan in place for all fixed electrical equipment with cabling, junction boxes and switchgear examined using heat seeking cameras in order to ensure that any potential faults are found before a fire can occur. All portable appliances, including those appliances used and owned by the staff, for example kettles, heaters, hair dryers and radios, should be tested annually under a portable appliance test plan and marked with a small label to confirm that they have been tested. Fire Marshals should regularly inspect portable appliances to ensure that the test is within the date specified.

1.16. Lightening protection. Some of the buildings are fitted with lightening protection, these will be referred to in the second part of this Fire Risk Assessment.

1.17. **Recommendation: (Intermediate risk).** The lightening conductors should be tested for continuity in accordance with British Standard 6651 sections 31 – 34 by accredited contractors under the direction of the Property Holdings Department. Records of the maintenance and repairs should be retained as in para. 1.9.

1.18. Gas installation. There is a mains gas supply to the site.

1.19. **Recommendation. (High risk).** Where gas is used the installation should be inspected and checked by a competent and qualified engineer in accordance with The Gas Safety (Installation and Use) Regulations 1998 by accredited contractors under the direction of the Property Holdings Department. Records of the maintenance and repairs should be retained as in para. 1.9.

1.20. Gas Cylinders. In the Engineering training facilities gas cylinders are used in the welding and brazing processes. Further reference to these will be made in the second part of this Fire Risk Assessment.

1.21. Oil installation. There are a number of oil installations throughout the site and these will be referred to in the second part of this Fire Risk Assessment.

1.22. Lift installation. A lift is installed giving access to the upper floors of several of the buildings. This will be referred to in the second part of this Fire Risk Assessment.

1.23. **Recommendation. (High risk).** The maintenance of the lift should be in accordance with British Standard/EN 81-70 by accredited contractors under the direction of the Property Holdings Department. Records of the maintenance and repairs should be retained as in para. 1.9.

1.24. Description of the emergency lighting system

1.25. An electrically operated emergency lighting system is installed in the buildings. The system is tested monthly, with maintenance at 3 monthly intervals and a battery discharge test annually. The work is carried out by an accredited and qualified contractor under the direction of the Property Holdings Department in accordance with BS 5266-2 Emergency lighting. Code of practice for electrical low mounted way guidance systems for emergency use. Records of the maintenance and repairs should be retained as in para. 1.8.

1.26. Description of the fire alarm system.

1.27. An electrically operated fire alarm system is installed in all the buildings. At the time of the Fire Risk Assessment no weekly tests were being carried out. The system is maintained by accredited contractors under the direction of the Property Holdings Department in accordance with BS 5839-1: Fire detection and alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance.

1.28. **Recommendation: (High risk).** The system should be tested at 7 day intervals by operating each manual call point by rotation so that all call points are tested within the twelve month period. Records of the maintenance and repairs should be retained as in para. 1.8.

1.29. Fire extinguishers. At the time of the Fire Risk Assessment there were suitable and sufficient portable fire extinguishers fitted about the premises. However, it was found that a number of the extinguishers have not been tested during the last 12 months.

1.29.1. **Recommendation. (Intermediate risk).** The maintenance of the extinguishers should be the subject of a contract with an accredited fire extinguisher maintenance company. It should be confirmed that the extinguishers are being maintained in accordance with British standard 5306:Pt3:1985. Any replacement extinguishers should conform to BS/EN 3. Normal periodic (inspection monthly) of the extinguishers by the occupants would include:

1.29.1.1. That the extinguisher is in the correct location, on a bracket or a stand.
1.29.1.2. The plastic safety tag is intact.
1.29.1.3. The safety pin is intact.
1.29.1.4. The identification sign is clearly and correctly displayed.
1.29.1.5. If a stored pressure unit, that the gauge is showing full pressure.
1.29.1.6. That the unit has been inspected/tested within the previous 12 months, and marked accordingly.
1.29.1.7. The unit is not damaged.
1.29.1.8. The unit is not obstructed.

These instructions should accompany the issue of extinguishers.

1.30. Signage. At the time of the risk assessment some fire safety signage was displayed about the premises. However, in some areas additional signage is required, this is referred to in the second part of this Fire Risk Assessment.

1.30.1. **Recommendation: (Intermediate risk).** Throughout the site many of the manual fire alarm call points were unmarked. In the event of a fire occurring, it is important that the staff, visitors and contractors are able to find the nearest manual fire alarm point quickly and easily. Signs should be displayed adjacent to the manual fire alarm points which can be viewed from all angles. It is further recommended that these signs should be of a photoluminescence type.

1.30.2. **Recommendation. (Intermediate risk).** Consideration should be given to installing photoluminescence fire safety signs throughout the building. Photoluminescence is a material that is charged by surrounding light providing automatic illumination in darkness. Its independence from electrical power sources and batteries provides conspicuous guidance in complete power loss and when smoke would obscure other emergency lighting. Photoluminescence signs are neither radioactive nor toxic and therefore not harmful to the environment. In addition by not requiring a back-up source of battery power or electricity, they will illuminate in a power cut or power failure.

1.31. Hot work permit system. A hot work permit system should be in force when work is being carried out at any of the premises.

1.31.1. **Recommendation: (High risk).** The system should be used for all contractors and internal engineers. Prior to approving any hot work the fire safety Supervisor or his appointee shall inspect the work area and confirm that precautions as listed below have been taken to prevent fire.
Precautions: Sprinklers and other Fire Fighting Systems and Equipment in service where possible.
Hot Work Equipment is in good condition.
Gas containers/flammable liquid containers to be changed/filled in the open.

Within 15 metres of work: Floors swept clean of combustibles and wetted down or covered with non combustible material where necessary
Combustible materials, hazardous or flammable liquids have been removed or are protected with non combustible curtains or sheets.
Non combustible covers suspended beneath work to collect sparks.
Work on walls or ceilings: Any combustible material has been protected against sparks or heat.
Combustibles moved away from other side of walls and away from metal through which heat can be transferred.
Work on enclosed equipment: (Tanks, containers, ducts, dust collectors etc.)
Equipment cleaned of all combustibles and dust
Containers purged of flammable liquids and vapours

1.32. Waste management/housekeeping. In general, the buildings on the site were in a tidy condition. However, there were areas where storage and waste had been allowed to accumulate and these are referred to in the second part of this Fire Risk Assessment.

1.32.1. **Recommendation**. **(High risk).** Good housekeeping can lower the chances of a fire starting, so the accumulation of combustible materials in premises should be monitored carefully. Good housekeeping is essential to reduce the chances of escape routes and fire doors being blocked or obstructed. Waste material should be kept in suitable containers prior to removal from the premises. If bins, particularly wheeled bins, are used outside, they should be secured in a compound to prevent them being moved to a position next to the building and set on fire. Skips should never be placed against a building and should normally be a minimum of 6m away from any part of the premises.

1.32.2. **Recommendation. (High risk).** A formal system for the control of combustible waste should be developed by ensuring that waste materials and rubbish are not allowed to build up and are carefully stored until properly disposed of, particularly at the end of the day.

1.33. Training

1.33.1. In the fire evacuation procedures. Fire evacuation drills are held every 3 months, normally at the beginning of a term. It is important that this procedure continues to be practised as it is the only effective means of ensuring a fast and safe evacuation of the buildings in the event of an incident.

1.33.2. In the use of extinguishers for Fire Marshals. It is understood that training in the use of extinguishers has been given to the caretaking staff.

This is satisfactory, however, this is a large site and additional Fire Marshals are required.

1.33.3. **Recommendation. (Intermediate risk).** The number of Fire Marshals operating on the site should be increased to at least two per floor in each building, by involving the office and teaching staff. Training in fire safety awareness and the use of fire extinguishers should be given to these key staff as they will be on hand if a fire breaks out in any of the buildings. The training should include the use of fire extinguishers with practical use. This training should be refreshed every 2 years.

1.34. Standards applicable to buildings of this type. The following are the standards to be used by the contractors/architects when carrying out the work referred to in the recommendations.

1.34.1. BS 4422 Fire. Vocabulary. British Standards Institution.

1.34.2. BS 5839-1: Fire detection and alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance.

1.34.3. BS PD 6512-3 Use of elements of structural fire protection with particular reference to the recommendations given in BS 5588 Fire precautions in the design and construction of buildings. Guide to the fire performance of glass.

1.34.4. BS EN 81-70 Safety rules for the construction and installation of lifts. Particular applications for passenger and goods passenger lifts. Accessibility to lifts for persons including persons with disability.

1.34.5. BS 9990 Code of practice for non-automatic fire fighting systems in buildings.

1.34.6. BS EN 1869 Fire blankets.

1.34.7. BS 5266-2 Emergency lighting. Code of practice for electrical low mounted way guidance systems for emergency use.

1.34.8. BS EN 60598-1 Luminaries. General requirements and tests.

1.34.9. BS 5499-1 Graphical symbols and signs. Safety signs, including fire safety signs. Specification for geometric shapes, colours and layout.

1.34.10. BS EN 1634-3 Fire resistance tests for door and shutter assemblies. Smoke control doors and shutters.

1.34.11. Draft BS EN 14637 Building hardware. Electrically controlled hold-open systems for fire/smoke door assemblies. Requirements, test methods, application and maintenance. (Consultation document.)

1.34.12. BS EN 1634-1: Fire resistance tests for door and shutter assemblies. Fire doors and shutters.

1.34.13. BS 5268-4.2 Structural use of timber. Fire resistance of timber structures. Recommendations for calculating fire resistance of timber stud walls and joisted floor constructions.

1.34.14. The Gas Safety (Installation and Use) Regulations 1998.

2. **Comments, observations and recommendations applicable to specific areas**.

A - THE CAMDEN BUILDING

2.1. Part I. Fire.

2.1.1. Sources of ignition. The sources of ignition are those associated with an administrative building with teaching kitchens. Electrical equipment, including electrical motors, small refrigerators, microwaves, computers, copiers, shredders and other office equipment. Teaching kitchens with multiple cookers and electrical kitchen equipment are located on the ground floor. In the basement Plant Room there is a risk of the oil fired boilers malfunctioning and the heavy electrical equipment developing a fault. No smoking is allowed in any part of the building.

2.1.2. Sources of fuel. Within the offices there is paper, card, plastics, textiles; and cardboard. The only other major source of fuel is the oil used in the kitchens for cooking and burned by the boilers located in the basement Plant Room. The equipment appears to be well maintained and under constant supervision. There is a mains gas supply to the kitchens.

2.1.2.1. **Recommendation: (High risk)**. Desks and workstations should be kept in a tidy condition with combustible materials stored tidily and away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in stairwells where they can become an obstruction. Stairwell enclosures and fire escape routes should be kept clear of all combustible material. The cooking fats and oils should be stored away from the main kitchen area, with only sufficient for daily use brought into the cooking area. The proposed Fire Marshals should monitor these conditions.

2.1.3. Sources of oxygen. The surrounding air is the only source of oxygen in this building. There are no oxidising substances or oxygen cylinders.

2.1.3.1. **Recommendation. (Intermediate risk):** The Fire Marshals should, upon the actuation of the fire alarm close the doors and where practical the windows, to restrict the air movement within the building.

2.2. Part II. People.

2.2.1. People at risk.

2.2.1.1. Approximately 50 persons are normally present in the building. The majority of these will be students who will need to be organised and directed in the event of an emergency. . The proposed Fire Marshals should provide this guidance.

2.2.1.2. Occasionally contractors and visitors are present in the building, the number will vary, however, the maximum number is likely to be 10.

2.2.1.3. **Recommendation. (Intermediate risk).** Visitors should always be accompanied when in the building. Contractors should be monitored at all times to ensure that they are conforming to the conditions of the work permit. The proposed Fire Marshals should monitor these conditions.

2.2.1.4. Some of the total may be disabled or non-ambulant. There is no equipment used to carry non-ambulant persons down the stairs

2.2.1.5. **Recommendation: (Very high risk).** Non-ambulant and disabled persons should not be allowed to occupy the upper floors without the provision of equipment to evacuate them safely.

2.2.2. Means of escape in case of fire and escape routes. There are 3 levels in this building, served by a staircase enclosure at both the east and west ends. The base of the staircase leads direct to open air. The teaching kitchens and dining room on the central level all have access via corridors to the staircase enclosures. The upper level where the hairdressing and beauty treatment classrooms are situated have access to a central corridor which leads to the staircase enclosures. Both staircases are separated from the remainder of the building by a fire resistance of 30 minutes.

2.2.3. **Recommendation. (Very high risk).** The means of escape via these stairs will only be satisfactory if the doors leading on to the staircase enclosure on each level of the building are retained in the closed position in order to insulate the staircase enclosures from any fire or products of

combustion which may be present in the working areas. It is important therefore that the Fire Marshals on each floor are vigilant in ensuring that the doors are closed at all times and only retained open by means of the magnetic door restraints which release the doors when the fire alarm actuates. At the time of the Fire Risk Assessment it was noted that a number of doors were restrained in the open position by wedges. These should be removed.

2.2.3.1. Disabled and non-ambulant occupants. Only in exceptional circumstances should staff, students or visitors who are confined to wheelchairs be allowed on the upper floors of the building. It is extremely difficult to evacuate those persons in a wheelchair down several flights of stairs. It is understood that persons confined to wheelchairs are to be left on the upper floors within the wheelchair refuge area. At the time of the Fire Risk Assessment it was not clear where these areas of refuge were. It is understood that the procedure is for the Fire & Rescue Service to carry out the rescue of persons confined to wheelchairs when they arrive. This is not satisfactory. Although the attendance time under normal circumstances would be between 5 and 10 minutes, exceptionally the Fire & Rescue Service could be delayed in their attendance by operations elsewhere on the island.

2.2.3.2. **Recommendation: (Very high risk).** Arrangements should be put in hand to provide equipment which is designed to evacuate non-ambulant or disabled people downstairs in an emergency. This equipment is easy and safe to use by able bodied persons and staff could easily be trained to use it effectively rather than leave the wheelchair bound person on the upper floors of the building during a fire situation.

2.2.3.3. **Recommendation. (Very high risk).** Where refuges are provided, they should be enclosed in a fire-resisting structure which creates a protected escape route which leads directly to a place of total safety and should only be used in conjunction with effective management rescue arrangements. The fire safety strategy should not rely on the Fire and Rescue Service assisting people waiting in these refuges.

2.3. Part III. Fire protection systems.

2.3.1. Fire detection and warning systems. The fire alarm system extends to all parts of the building, with smoke or heat detectors fitted in all rooms and corridors. Manual call points are fitted on all floors within the escape routes.

2.3.2. Portable fire fighting equipment and facilities. Portable fire extinguishers are fitted on every floor. They normally comprise a 2 kilo carbon dioxide

extinguishers and one 9 or 6 litre spray foam or water extinguisher located together at the fire points.

2.3.2.1. **Recommendation:** Powder extinguishers are provided in the kitchen areas. Whilst a correctly operated powder extinguisher can be extremely effective against a small fire, it is not an ideal extinguisher to discharge in a catering establishment. The extinguisher operates by discharging a very find powder over the area of the fire, displacing the oxygen and knocking down the flame structure. Should a powder extinguisher be expelled in the kitchen area, the powder would fill the room and settle on all surfaces and any consumables which may be present. It would be a major task to carry out a cleaning operation following the discharge of a powder extinguisher. A carbon dioxide extinguisher should be provided for electrical equipment and a wet chemical extinguisher should be provided for the fats and oils which may ignite. The blankets which are provided in the kitchen area are ideal for contained liquids on the hob or the clothing of any persons which may ignite.

2.3.3. Emergency escape lighting. The emergency lighting system extends to all parts of the building.

2.3.4. Signs and notices

2.3.4.1. Escape signs. Suitable and sufficient escape signs are displayed throughout the building indicating the route to be taken in the event of an emergency.

2.3.4.2. Fire door signs. There were some fire door signs fixed to the fire resistant doors throughout the building. However, there are other doors where signed were not fixed.

2.3.4.3. **Recommendation: (Very high risk).** All fire resistant doors should have a sign indicating “fire door keep closed” or in the case of store cupboards and store rooms “fire door keep locked shut” which should be fixed at eye level on each side of the door. This is to ensure that the means of escape route is separated from the working areas of the building so as to allow the occupants to escape safely.

2.3.4.4. Fire action signs. There were suitable and sufficient fire action signs displayed throughout the building.

2.3.4.5. Lift signs. There were suitable and sufficient signs indicating that the lifts should not be used during an emergency evacuation of the building.

2.4. Part IV. Construction of the building.

2.4.1. Fire separation. The structural fire separation in a building should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape routes in this building comprise the walls, floors, and ceilings of the corridors and the staircase enclosures. This includes the glass screens and the doors to the staircase enclosure. Some of the doors within the staircase enclosures of this building have been modified with holes cut in the door covered with lattice screens to allow air to circulate. This reduces the standard of fire resistance and is not satisfactory.

2.4.1.1. **Recommendation. (Very high risk).** The doors to the staircase enclosure form an important separation between the escape route and the possible fire areas. In this building it is essential that the integrity of the escape route remains in tact. It is therefore very important that the doors are of a minimum fire resistance of 30 minutes, self-closing and have an intumescent seal in accordance with British Standard 1634. The doors should swing free and close firmly on rebates of a minimum depth of 25 mm. Any glazing in the doors should be of a similar fire resistance.

2.4.1.2. **Recommendation: (High risk).** Boiler House fire separation. The pipe channels and cable ducts in the wall at high level within the Boiler House should be fire stopped with an intumescent foam with a minimum fire resistance of one hour.

2.4.2. Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above. However, particular attention should be given to the inspection and cleaning of the extractor fans within the toilets in this building.

2.4.2.1. **Recommendation (Intermediate risk).** Particular attention should be given to the inspection and cleaning of the extractor fans within the toilets on each floor. Charging adaptors and electric air fresheners should be unplugged when the building is unoccupied.

2.5. Part V. Fire safety management of the building.

2.5.1 It is understood that it is difficult to maintain the security of a building in which the free movement of the occupants is accepted as normal. However, it is important to compile a procedure which allows for the fast and efficient evacuation of the building as well as accounting for all persons who are known to have been in the building at the time of the emergency.

2.5.1.1. **Recommendation: (Very high risk).** The only effective means of ensuring that all the occupants have vacated the building in an emergency is for the staff to be trained to quickly search an allocated area before leaving themselves. This would normally be a task allocated to Fire Marshals, and therefore reference is made to the paragraph in Part I of this Fire Risk Assessment to the appointing of Fire Marshals on all floors.

2.5.2. Waste management/housekeeping. The building is generally clean and tidy. However, there are areas where combustible storage has been left in a haphazard manner. In some cases this is within a high risk area, e.g. the Boiler House.

2.5.2.1. **Recommendation: (Intermediate risk).** All combustible material should be removed from the Boiler House.

2.6.2.2 **Recommendation: (Intermediate risk).** Fire Marshals should ensure that not only are obstructions removed, but there are no combustible materials left within any of the escape routes.

2.5.3. Further hazards.

2.5.3.1. The kitchens are the highest risk in this building. The cooking oils present a significant fuel risk with open flames of the hobs presenting an ignition risk.

2.5.3.2. **Recommendation. (High risk).** . The proposed Fire Marshals should monitor these conditions.

2.6. Part VI Conclusions.

2.6.1. Risk assessment.

2.6.1.1. Risk of fire occurring: Intermediate. The main risk of fire occurring in this building is within the kitchen area from fires associated with cooking oils. Specific training given to staff on fire safety awareness should reduce the risk, and with training in the use of fire extinguishers the staff should be able to extinguish a small fire in the early stages.

2.6.1.2. Risk of injury to persons occupying this building if a fire did occur: High. A fire involving fats and oils would produce thick acrid smoke and great heat. If the smoke is allowed to permeate into the escape routes then it is likely to affect the evacuation of not only the occupants of the kitchen area, but also those on the upper floors as the smoke will quickly fill the staircase preventing the escape of the occupants.

2.6.1.3. Assessors' comments. Whilst this building is well managed with regard to some fire safety matters, for example fire alarms, emergency lighting and evacuation procedures, the maintenance of the fire separation, particularly on the staircase enclosures, is poor. A very dangerous situation exists where fire resistant doors protecting the escape routes are wedged open during working hours. This could result in a situation where the occupants would be trapped on the upper floors with no means of escape. This is particularly concerning as at the time of the Fire Risk Assessment it was intended to leave wheelchair bound occupants on the upper levels to await the arrival of the Fire & Rescue Service, this is not recommended. It is strongly recommended that this matter be addressed as soon as possible.

B - NIGHTINGALE BUILDING

2.1. Part I. Fire

2.1.1. Sources of Ignition. The sources of ignition are those associated with an administrative building. Electrical equipment, including electrical motors, small refrigerators, microwaves, computers, copiers, shredders and other office equipment. In the kitchen on the ground floor there is cooking equipment including deep fat fryers and in the Plant Room there is a risk of the oil fired boilers malfunctioning and the heavy electrical equipment developing a fault. No smoking is allowed in any part of the building.

2.1.1.1 **Recommendation: (Intermediate risk).** Care should be taken when using electrical adapters, e.g. mobile telephone charging adapters, or electrical air fresheners. These device are known to malfunction, overheat and cause fires. All electrical equipment should be kept clear of combustible material.

2.1.2. Sources of Fuel. Within the offices there is paper, card, plastics, textiles and cardboard. Within the kitchen there is a gas supply to the cookers and hobs as well as the fats and oils associated with cooking. The only other major source of fuel is the oil used for heating the premises and is burned by the boilers located in the Plant Room in the basement. This equipment is well maintained and under constant supervision.

2.1.3. **Recommendation: (High risk).** Desks and workstations should be kept in a tidy condition with combustible material stored tidily away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or stair wells where they can become an obstruction. Stair well enclosures and fire escape routes should be kept clear or all combustible material.

2.1.4. Sources of Oxygen. Surround air is the only source of oxygen. There are no oxidising substances or oxygen cylinders.

2.1.5 **Recommendation: (Intermediate risk)**. Upon the actuation of the fire alarm the Fire Marshals should, wherever possible, close the windows and doors in order to restrict the amount of oxygen feeding the fire.

2.2. Part II. People.

2.2.1. People at risk. Approximately 100 people are normally present in the building.

2.2.2. Occasional contractors and visitors are present in the building, maximum number: 20.

2.2.3. Approximately 20 of the total are disabled or non-ambulant. There is no equipment used to carry non-ambulant persons down the stairs. The procedure at the time of the Fire Risk Assessment was for those persons confined to wheelchairs to remain in a refuge area and wait for the arrival of the Fire & Rescue Service. This is not satisfactory.

2.2.4. **Recommendation: (Very high risk).** Non-ambulant and disabled persons should not be allowed to occupy the upper floors without the provision of equipment designed to evacuate them safely. The use of such equipment requires able bodied members of staff to assist in the evacuation, therefore Fire Marshals should be appointed and trained for this role.

2.2.5. Means of escape in case of fire and escape routes. Two staircases lead from the upper floors of the building to ground floor level and then to open air. The staircase enclosures are protected at the upper level with fire resistant screens and at the ground floor level with fire resistant self-closing doors leading to the working areas of the building. The south staircase leads down to the entrance hall which has doors leading to the refectory and the kitchens. At the time of the Fire Risk Assessment the door to the refectory was open, which in the event of a fire would have allowed smoke to enter the staircase enclosure preventing the occupants of the upper floor from using the staircase. This is not satisfactory.

2.2.6. **Recommendation (Very high risk).** In order to ensure that the occupants of the upper floors of the building are able to escape safely in the event of a fire, the staircase enclosures must be retained free of smoke and the products of combustion. All doors leading into the staircase enclosure from all levels must be kept closed at all times. If they are required to remain open to facilitate the working of the building, then magnetic door restraining devices should be used which will automatically release the door, the self-closing devices returning it to its closed position in the event of the fire alarm actuating.

2.3 Part III. Fire protection systems.

2.3.1 Fire detection and warning systems. The fire alarm system extends to all parts of the building, with smoke and heat detectors fitted in all rooms and corridors. Manual call points are fitted on all floors within the staircase enclosure.

2.3.2 Portable fire fighting equipment and facilities. Portable fire extinguishers are fitted on every floor. They normally comprise 2 kilo carbon dioxide extinguisher and one 6 litre spray foam extinguisher located together at the fire points.

2.3.3 **Recommendation:** Powder extinguishers are provided in the kitchen areas. Whilst a correctly operated powder extinguisher can be extremely effective against a small fire, it is not an ideal extinguisher to discharge in a catering establishment. The extinguisher operates by discharging a very find powder over the area of the fire, displacing the oxygen and knocking down the flame structure. Should a powder extinguisher be expelled in the kitchen area, the powder would fill the room and settle on all surfaces and any consumables which may be present. It would be a major task to carry out a cleaning operation following the discharge of a powder extinguisher. A carbon dioxide extinguisher should be provided for electrical equipment and a wet chemical extinguisher should be provided for the fats and oils which may ignite. The blankets which are provided in the kitchen area are ideal for contained liquids on the hob or the clothing of any persons which may ignite.

2.3.4 Emergency escape lighting. The emergency lighting system extends to all parts of the building.

2.3.5 Fixed fire fighting installations. There are no fixed fire fighting installations fitted in this building. A fusible link fire alarm system is fitted within the Boiler House which automatically shuts off the supply of oil to the boilers if a fire breaks out in the boiler house.

2.4 Signs and notices

2.4.1 Escape signs. At the time of the Fire Risk Assessment there were suitable and sufficient signs indicating the means of escape from the building. However, additional fire safety signs are required.

2.4.2 Fire door signs. All doors designated fire resistant should have a sign which indicates that they should be kept closed in order to protect the escape routes. Doors to store rooms or electrical equipment cupboards should have a sign which indicates “fire door keep locked shut”.

2.4.3 Fire action signs. There were suitable and sufficient fire action signs displayed throughout the building.

2.4.4 Lift signs. The lifts should not be used during an emergency evacuation of the building. At the time of the Fire Risk Assessment there were no signs indicating this.

2.4.5 **Recommendation: (High risk)**. A notice should be displayed near the lift calling buttons on every floor stating that the lift should not be used during emergency evacuation.

2.5 Part IV. Construction of the building.

2.5.1 Fire separation. The structural fire separation in this building is installed to a high standard and should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape in this building comprise the walls, floors, and ceilings of the corridors and the staircase enclosures. This includes the glass screens, the lift doors and the doors of the staircase enclosure, all of which should have a minimum fire resistance of 30 minutes. The doors should also be self-closing and fitted with an intumescent smoke and fire seal in accordance with the British Standard. There are doors which are propped or wedged open, see recommendation below.

2.5.2 **Recommendation.** Reference is made to the recommendations and means of escape above referring to the doors which are left open from the staircase enclosures, thus breeching the fire separation.

2.5.3 Electrical equipment. Electrical equipment used within the building.

2.5.4 **Recommendation. (Intermediate risk).** Reference has been made to the maintenance of the electrical equipment in paragraph 1.15 above. However, particular attention should be given to the inspection and cleaning of the extractor fans within the toilets on each floor.

2.5.5 **Recommendation: (High risk).** Careful use should be made of portable electrical equipment; extension leads and adaptors should not be overloaded, charging adaptors for mobile telephones should be unplugged at night and electrical plug-in air fresheners should never be left unattended whilst switched on. If devices are used to re-charge batteries these should never be left on overnight whilst the building is unoccupied.

2.6 Part V. Fire safety management of the building.

2.6.1 Waste management/housekeeping. In this building there is combustible storage and waste bins located in the staircase enclosures and the corridor escape routes. Copying machines have also been set up within the corridors. These not only present an obstruction reducing the width of the escape route, but can also be a fire hazard.

2.6.2 **Recommendation. (Very high risk).** No combustible or electrical equipment should be sited within the escape routes, that is to say the corridors and staircase enclosures.

2.6.3 Further hazards.

2.6.4 The kitchens are the highest risk in this building. The cooking oils present a significant fuel risk with open flames of the hobs presenting an ignition risk.

2.6.5 **Recommendation. (High risk).** . The proposed Fire Marshals should monitor these conditions.

2.7 Part VI Conclusions.

2.7.1 Risk assessment.

2.7.2 Risk of fire occurring: High: due to the risk of fire within the kitchen area.

2.7.3 Risk of injury to persons occupying this area if a fire did occur: Very high: due to the poor standard of maintenance of the fire separation between the refectory/kitchen and the entrance hall at the south end of the building on the ground floor and presence of non-ambulant persons on the upper floor.

2.7.4 Assessors' comments. The main area of concern in this building is the presence of disabled or non-ambulant students occupying the upper floor of the building. This, coupled with the poor maintenance of the fire separation at the lower levels, will, in the case of a fire occurring, possibly in the kitchen area on the ground floor, provide a situation which will trap persons on the upper floor. The present practice of leaving wheelchair bound students on the upper floors during a fire evacuation and depending upon the speed of attendance of the Fire & Rescue Service to move them to safety is not satisfactory. If the Fire & Rescue Service is delayed by operations elsewhere or simply by traffic conditions, the disabled or non-ambulant students could be left for a length of time which would result in them being permanently trapped by the fire. This matter should be addressed without delay.

C – STEPHENSON BUILDING

2.1. Part I. Fire

2.1.1. Sources of Ignition. The sources of ignition are those associated with a motor maintenance workshop. Electrical equipment, welding and grinding equipment. No smoking is allowed in any part of the building.

2.1.2. Sources of Fuel. Within the classrooms and offices there is paper, card, plastics, textiles and cardboard. Within the motor maintenance area there is flammable liquid and flammable gases used for welding. The only other major source of fuel is the oil used for heating the premises and is burned by the boilers located in the Plant Room adjacent to the building. All this equipment is well maintained and under constant supervision. No gas is installed within the building.

2.1.3 **Recommendation: (High risk).** Flammable liquids should be stored in a fire proof compartment or bin. Vehicles should never be refuelled within the workshop. Flammable gas cylinders should be stored in a ventilated compound on the outside of the building and only be brought into the building when they are to be used. They should be returned to the compound immediately after use. Desks and workstations should be kept in a tidy condition with combustible material stored away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure they do not become untidy. Other items of storage, for example cardboard boxes, pallets and large items of equipment should not be placed in corridors or stair wells where they can become an obstruction. Stair well enclosures and fire escape routes should be kept clear of all combustible material. The combustible storage present in the Boiler House should be removed.

2.1.4. Sources of Oxygen. As well as the surrounding air there were at the time of the Fire Risk Assessment oxygen cylinders present in the workshop area. These were used with the acetylene welding equipment. The oxygen cylinders should be stored outside the building in a ventilated compound and only brought into the building when the welding equipment is being used. They should be returned to the ventilated compound immediately after use.

2.2. Part II. People.

2.2.1. People at risk. Approximately 20 people are normally present in the building.

2.2.2. Occasional contractors and visitors are present in the building, maximum number: 5.

2.2.3. If disabled or non-ambulant persons are likely to be present on the upper floor of the building, arrangements should be made to evacuate them safely during an emergency. At present there is no equipment provided to carry non-ambulant persons down stairs.

2.2.4. **Recommendation: (Very high risk).** Non-ambulant and disabled persons should not be allowed to occupy the upper floors without the provision of equipment designed to evacuate them safely.

2.2.5. Means of escape in case of fire and escape routes. The escape route from the ground floor leads directly from the workshop maintenance area through the main access doors to open air at the front of the building. The means of escape from the mezzanine classroom area is via a staircase at each end of the corridor leading to the classrooms. The west staircase leads down to an entrance hall and direct to open air. The east staircase leads down into the maintenance area of the workshop and then to open air via the main doors at the front of the building.

2.2.6. **Recommendation: (Very high risk).** It is important to keep the route from the base of the staircase at the east end of the workshop clear so that persons escaping from the mezzanine are have a direct route to the exit doors at the front of the building. It is also important that the workshop area is not allowed to become so congested that the persons working in the workshop have to travel a tortuous route around obstructions to gain the exit at the front of the building.

2.5. Part III. Fire protection systems.

2.5.1. Fire detection and warning systems. The fire alarm system extends to all parts of the building, with smoke or heat detectors fitted in all rooms, workshops and corridors. Manual call points are fitted on the escape routes from the building. This is satisfactory.

2.5.2. Portable fire fighting equipment and facilities. Portable fire extinguishers are fitted on the mezzanine floor: they comprise one 2 kilo carbon dioxide extinguisher and one 6 litre spray foam extinguisher.

2.5.3. **Recommendation. (Intermediate risk).** Four additional 9 kilo powder extinguishers should be provided in the workshop area on the ground floor. These could be used for any spillage of flammable liquid.

2.5.4. Emergency escape lighting. The emergency lighting system extends to all parts of the building.

2.5.5. Fixed fire fighting installations. A fire hose reel is fitted to the wall adjacent to the entrance to the Boiler Room. This equipment appears to be in poor condition and has not been maintained for some time.

2.5.6. **Recommendation (Intermediate risk).** If the fire hose reel is to be retained it should be subjected to an inspection and test and repairs carried out as necessary.

2.5.7. Signs and notices.

2.5.8. Escape signs. At the time of the Fire Risk Assessment there were suitable and sufficient signs indicating the means of escape from both the maintenance workshop and the mezzanine level.

2.5.9. Fire door signs. The fire resistant leading from the corridor on the mezzanine level and the staircase enclosure on the ground floor level should have a sign displayed which indicates that the doors should be kept closed.

2.5.10. Fire action signs. Signs indicating the action to be taken in the case of fire should be displayed at all exit doors from the building.

2.6 Part IV. Construction of the building.

2.6.1 Fire separation. The structural fire separation in this building is installed to a high standard and should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape routes in this building comprise the walls, floors, and ceilings of the corridors and the staircase enclosure leading from the mezzanine area. If a fire was to occur in the workshop area it is likely to be of explosive force which will spread quickly. It is therefore very important to maintain the integrity of the means of escape routes from the mezzanine floor.

2.6.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above. This is particularly important where high voltage equipment is used, as in the workshop.

2.7 Part V. Fire safety management of the building.

2.7.1 Waste management/housekeeping. At the time of the Fire Risk Assessment there was haphazard storage in the workshop area and the adjacent rooms. The Boiler House also contained combustible and other storage. This is not satisfactory.

2.7.2 **Recommendation: (Intermediate risk).** All storage areas should be tidied and waste removed and disposed of. The combustible and flammable storage within the boiler house should be removed, including the motor tyres.

2.7.3 Further hazards.

2.7.4 The workshop is a high fire risk area where flammable liquids and gases are used regularly. It is important that all persons using this area are aware of the risks and the action to be taken should a fire occur.

2.7.5 **Recommendation: (Intermediate risk).** The staff using this area should be trained in fire safety awareness and the practical use of fire extinguishers.

Part VI Conclusions.

2.8.1 Risk assessment.

2.8.1.1 Risk of fire occurring: High: due to the flammable liquids and gases used within the workshop area.

2.8.1.2 Risk of injury to persons occupying this area if a fire did occur: Very high: due to the likelihood of a flash fire or explosion from the flammable liquids or gases.

2.8.1.3 Assessors' comments. The fire safety management in this building is at a high standard. However, there is a very high risk associated with the workshop area due to the flammable liquids and gases used there. Very careful management of these highly flammable substances should provide a reasonably safe working environment, but the risk is always present and the staff working in the area with students should be constantly vigilant to the risks. The means of escape from the workshop area is via the sliding doors leading to open air: it is important that these doors are easily opened in an emergency. Therefore, a preventive maintenance programme should be introduced with regular inspections of the doors to ensure that they slide easily.

D -**JERSEY BUSINESS SCHOOL AND THE ADJOINING BRIDGE TO THE TURNER BUILDING**

2.1. Part I. Fire

2.1.1. Sources of Ignition. The sources of ignition comprise mostly of electrical equipment and cabling. These are office based computers, copiers, shredders and lighting. In the Plant Room there is a risk of the oil fired boilers malfunctioning and the heavy electrical equipment developing a fault. No smoking is allowed in any part of the building.

2.1.2. Sources of Fuel. Within the offices, classrooms and computer rooms there is paper, card, plastics, textiles and cardboard. The only other major source of fuel is the oil used for heating the premises and burned by the boilers located in the Plant Room on the lower floor.

2.1.3 **Recommendation: (High risk).** Desks and workstations should be kept in a tidy condition with combustible material stored tidily and away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in the stair wells where they can become an obstruction. Stair well enclosures and fire escape routes should be kept clear of all combustible material.

2.1.4. Sources of Oxygen. The surrounding air is the only source of oxygen. There are no oxidising substances or oxygen cylinders.

2.2. Part II. People.

2.2.1. People at risk. Approximately 150 people are normally present in the building.

2.2.2. Occasional contractors and visitors are present in the building, maximum number: 10.

2.2.3. Some of the total are disabled or non-ambulant. There is no equipment provided to carry non-ambulant persons down stairs. This is not satisfactory.

2.2.4. **Recommendation: (Very high risk).** Non-ambulant and disabled persons should not be allowed to occupy the upper floors without the provision of equipment designed to evacuate them safely. . The procedure at the time of the Fire Risk Assessment was for those persons confined to wheelchairs to remain in a refuge area and wait for the arrival of the Fire & Rescue Service. This is not satisfactory.

2.2.5. **Recommendation: (Very high risk).** Non-ambulant and disabled persons should not be allowed to occupy the upper floors without the provision of equipment designed to evacuate them safely. The use of such equipment requires able bodied members of staff to assist in the evacuation, therefore Fire Marshals should be appointed and trained for this role. The assistance of the Fire and Rescue Service should not form part of the fire evacuation strategy for non-ambulant persons.

2.2.6. Means of escape in case of fire and escape routes. There are two staircases which serve all 4 levels of the building. The routes lead from the work areas to the corridors and then to the staircase enclosures. Both staircases are protected with fire resistant doors and screens, the construction being to a high standard. There is access to open air at the second level on the west side of the building and at the first level on the east side of the building. There is also access to the Turner Building via a corridor across a bridge adjacent to the Main Hall. At the time of the Fire Risk Assessment the Turner Building was being renovated and it was unclear whether this means of escape was available to the occupants of the Jersey Business School. A number of fire resistant doors leading to the staircase

enclosures were restrained by magnetic door retaining devices which release the door upon the actuation of the fire alarm system. This is satisfactory, but the doors should be closed at night and the magnetic devices should be tested regularly to ensure they are working correctly. There were a number of other doors restrained with wedges. This is not satisfactory, the wedges should be removed.

2.3 Part III. Fire protection systems.

2.3.1 Fire detection and warning systems. The fire alarm system extends to all parts of the building, with smoke or heat detectors fitted in all rooms and corridors. Manual call points are fitted on all floors within the escape routes.

2.3.2 Portable fire fighting equipment and facilities. Portable fire extinguishers are fitted on every floor: they comprise one 2 kilo carbon dioxide extinguisher and one 6 litre spray foam extinguisher located together at the fire points.

2.3.3 Emergency escape lighting. The emergency lighting system extends to all floors of the building.

2.3.4 Fixed fire fighting installations. There are no fixed fire fighting installations in this building.

2.3.5 Signs and notices

2.3.5.1 Escape signs. At the time of the Fire Risk Assessment there were suitable and sufficient signs indicating the means of escape from all parts of the building.

2.3.5.2 Fire door signs. Suitable and sufficient fire door signs are affixed to the fire resistant doors throughout the building.

2.3.5.3 Fire action signs. There were suitable and sufficient fire action signs displayed throughout the building.

2.3.5.4 Lift signs. “Do not use the lift during an emergency evacuation” signs were displayed on all floors.

2.4 Part IV. Construction of the building.

2.4.1 Fire separation. The structural fire separation in this building is installed to a high standard and should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape routes in this building comprise the walls, floors, and ceilings of the corridors and the staircase enclosures; this includes the glass screens, the lift doors and the doors of the staircase enclosure, all of

which should have a minimum fire resistance of 30 minutes. The doors should also be self-closing and fitted with an intumescent smoke and fire seal in accordance with British Standard. The fire separation was found to be satisfactory.

2.4.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above. However, particular attention should be given to the inspection and cleaning of the extractor fans within the toilets at each level.

2.5 Part V. Fire safety management of the building.

2.5.1 Waste management/housekeeping. The building is clean and tidy to a high standard.

2.5.2 Further hazards.

2.5.2.1 The notice boards located along the corridors on the different levels present a surface spread of flame hazard within the escape route. This is not satisfactory.

2.10.2.2. **Recommendation: (High risk).** In order to maintain the appropriate surface spread of flame rating for the walls of the escape routes, the notice boards should be covered with a film of clear polycarbonate.

2.6 Part VI Conclusions.

2.6.1 Risk assessment.

2.6.1.1 Risk of fire occurring: Low: due to the high standard of fire safety management and the low fire risk of the processes carried on within the building.

2.6.1.2 Risk of injury to persons occupying this area if a fire did occur: Low: due to the high standard of fire safety management and the fire evacuation procedures coupled with the high standard of maintenance of the fire escape routes. This risk would be considered Very high if disabled and non-ambulant person are to be left on the upper floors during a fire situation.

2.6.1.3 Assessors' comments. The fire safety management in this building is at a high standard. The structure of the building, including the elements of fire separation and means of escape routes are well maintained, resulting in a safe environment for the occupants. However, it is important that Fire Marshals are appointed who will

ensure the daily maintenance of the fire safety provisions and assist in the important task of fire evacuation if a fire does occur. The existing arrangements to leave disabled or non-ambulant persons on the upper floors at "refuge points" it considered to be unsatisfactory. Alternative arrangement should be made as indicated in the report.

E – BRUNELL BUILDING

2.2. Part I. Fire

2.2.1. Sources of Ignition. The sources of ignition are those associated with engineering workshops where soldering, welding, brazing, grinding and drilling take place. There is also considerable electrical equipment including electrical motors and heavy electrical cabling installed within the building. In the Plant Room there is a risk of the oil fired boilers malfunctioning and the electrical equipment developing a fault. No smoking is allowed in any part of the building.

2.2.2. Sources of Fuel. Within the workshops there are flammable liquids and gases, in the Boiler Room there is the oil used for heating the premises and burned by the boilers, and in the offices there is paper, card, plastics, textiles and cardboard. There is also a mains gas supply to the building. Within the offices it was noted at the time of the Fire Risk Assessment that the cylinders of flammable gas, acetylene and propane etc, were kept within the building. This is not satisfactory. All cylinders should be removed from the building at the end of the working day and stored in the ventilated cages which are sited on the exterior of the building.

2.2.3 **Recommendation: (High risk).** Desks and workstations should be kept in a tidy condition with combustible material stored tidily and away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in the stair wells where they can become an obstruction. Stair well enclosures and fire escape routes should be kept clear of all combustible material.

2.2.4. Sources of Oxygen. In addition to the surrounding air, there were oxygen cylinders present in the building.

2.2.5 **Recommendation (High risk).** The oxygen cylinders should be removed from the building at the end of the working day and stored in the cylinder cages sited on the exterior of the building.

2.3. Part II. People.

2.3.1. People at risk. Approximately 30 people are normally present in the building.

2.3.2. Occasional contractors and visitors are present in the building, maximum number: 5.

2.3.3. It was not clear at the time of the fire risk assessment whether disabled persons would be using the building. However, there is no equipment used to carry non-ambulant persons down stairs. This is would not satisfactory.

2.3.4. **Recommendation: (Very high risk).** Non-ambulant and disabled persons should not be allowed to occupy the upper floors of the building without the provision of equipment designed to evacuate them safely. In addition, the staff should be trained to use this equipment and it should be confirmed that sufficient able bodied staff are available at all times when disabled or non-ambulant persons are present on the upper floors in order that they might assist them to safety in an emergency.

2.3.5. Means of escape in case of fire and escape routes. The means of escape from the ground floor workshops of the building is direct to open air at the front of the building. The means of escape from the mezzanine area in the Plumbing Workshop is via the stairs at each end of the mezzanine area which lead down to the ground floor, and then direct to open air at the front of the building. The means of escape from the mezzanine classroom area is at either end of the corridor which runs alongside the offices and the classrooms. The east stairs lead down and direct to open air. The west stairs lead down into the Plumbing Workshop and then across the workshop to the doors leading to open air at the front of the building.

2.4 Part III. Fire protection systems.

2.4.1 Fire detection and warning systems. The fire alarm system extends to all parts of the building, with smoke or heat detectors fitted in all workshops, classrooms, offices and corridors. Manual call points are fitted within the escape routes throughout the building.

2.4.2 Portable fire fighting equipment and facilities. Portable fire extinguishers are fitted throughout the building. Within the classroom and office areas on the mezzanine floor they comprise one 2 kilo carbon dioxide extinguisher and one 9 litre spray foam extinguisher located together at the fire points. Within the workshop areas the foam extinguishers are supplemented with powder extinguishers. This is satisfactory, but it appeared that the carbon dioxide extinguishers in the workshops had not been inspected or maintained within the last 12 months. This is not satisfactory.

2.4.3 **Recommendation: (Intermediate risk).** It should be confirmed that the extinguishers have been inspected and maintained at 12 monthly intervals by a suitably qualified and experienced fire extinguisher engineer.

2.4.4 Emergency escape lighting. At the time of the fire risk assessment it was not clear whether the emergency lighting system extended to all floors of the building.

2.4.5 **Recommendation. (High risk).** This should be confirmed.

2.4.6 Fixed fire fighting installations. There are no fixed fire fighting installations in this building.

2.4.7 Signs and notices

2.4.7.1 Escape signs. At the time of the Fire Risk Assessment there were suitable and sufficient signs indicating the means of escape from all parts of the building.

2.4.7.2 Fire door signs. The fire resistant self-closing doors protecting the escape route at the mezzanine level should have signs fixed to both sides of the door at eye level indicating “fire door, keep shut”. Doors to store cupboard opening on to the route should have signs indicating “fire door, keep locked shut”.

2.4.7.3 Fire action signs. There were suitable and sufficient fire action signs displayed throughout the building.

2.5 Part IV. Construction of the building.

2.5.1 Fire separation. The fire separation protecting the mezzanine floor from the remainder of the building is satisfactory. However, it is important not to restrain fire resistant self-closing doors with wedges or other obstructions as these doors form an integral part of the safe fire evacuation system.

2.10.2 **Recommendation:** All wedges and other obstructions to fire resistant self-closing doors should be removed. If it is imperative that doors should remain open, then magnetic door restraining devices should be fitted which will release the door when the fire alarm is actuated.

2.10.2 Construction of the building. The building is a corrugated steel framed workshop type building. It is understood that the corrugated walls and roof are not insulated.

2.10.3 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above.

2.11 Part V. Fire safety management of the building.

2.11.1 Waste management/housekeeping. Albeit that the majority of this building is in workshop format, it is clean and tidy to a high standard.

2.11.2 Further hazards.

2.11.2.1 **Recommendation. (High risk).** The gas cylinders sited in the working areas at the time of the Fire Risk Assessment should be removed at the end of the working day and returned to the ventilated storage cage on the exterior of the building.

2.12 Part VI Conclusions.

2.12.2 Risk assessment.

2.12.2.1 Risk of fire occurring: High: due to the large quantities of flammable materials within the workshops.

2.12.2.1 Risk of injury to persons occupying this area if a fire did occur: High: due to the explosions or flash fires which may occur if the flammable liquids and gases ignite.

2.12.2.2 Assessors' comments. It is expected that the fire safety management in this building is at a high standard as the staff teaching the techniques for the use of flammable gases and other materials will be fully aware of the hazards. However, it is important to reduce those hazards as far as possible, and the removal of gas cylinders to the storage cages will considerably reduce the risks. Should a leak of flammable gas occur within the workshops when the building is unattended, for example at night, then an electrical spark or other pilot light may ignite the leak of gas with explosive force.

F – MEDIA & EXAMINATIONS CENTRE

2.1 Part I Fire

2.1.1 Sources of Ignition. The sources of ignition are those associated with an administrative building combined with several workshops. Electrical equipment, including electrical motors in the workshops, computers, copiers, shredders and other office equipment. In the Boiler Room at roof level there is a risk of the gas fire boilers malfunctioning and the heavy electrical equipment developing a fault. No smoking is allowed in any part of the building.

2.1.1 Sources of fuel. Within the offices there is paper, card, plastics, textiles and cardboard. Within the workshops there is timber, shavings and sawdust. The only major source of fuel is the gas used for heating the premises and burned by the boilers located in the Boiler Room at roof level. This equipment is well maintained and under constant supervision.

2.1.1.1 **Recommendations: (High risk)**. Desks and workstations should be kept in a tidy condition with combustible material stored tidily and away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in the stair wells where they can become an obstruction. Stair well enclosures and fire escape routes should be kept clear of all combustible material.

2.1.2 Sources of oxygen. The surrounding air is the only source of oxygen in this building. There are no oxidising substances or oxygen cylinders.

2.1.3.1 **Recommendation: (Intermediate risk):** The Fire Marshals should, upon the actuation of the fire alarm close the doors and where practical the windows, to restrict the air movement within the building.

2.2 Part II. People.

2.2.1 People at risk.

2.2.1.1 Approximately 200 persons are normally present in the building.

2.2.1.2 Occasional contractors and visitors are present in the building, maximum number: 5.

2.2.1.3 Approximately 5 of the total are likely to be disabled or non-ambulant. There is no equipment used to carry non-ambulant persons down the stairs. This is not satisfactory.

2.2.1.4 Means of escape in case of fire and escape routes. There are 2 staircases which lead down from the upper floors of the building to ground floor level and out to open air. The primary means of escape is from the working areas into the central corridor and then to ground floor level via the main staircase exiting to open air at the main entrance doors on the west side of the building. The alternative means of escape is via the staircase enclosure which is at the north end of the building. The doors leading on to the escape routes are of a good standard of fire resistance and fitted with self-closing devices. However, the means of escape will only be satisfactory if the doors leading on to the corridors and the staircase enclosures at each level are retained in the closed position in order to insulate the escape route from any fire or products of combustion which may be present during a fire in the working areas. It is important therefore that the Fire Marshals on each floor are vigilant in ensuring that doors are closed at all times and not wedged open. At the time of the Fire Risk Assessment there were many of the doors wedged or propped open.

2.2.1.5 **Recommendation: (Very high risk).** All doors leading on to the escape route and the staircase enclosure from the working areas must be closed at all times. If it is necessary for the management of the building for the doors to be left open, then they should be restrained by magnetic devices which will release the door when the fire alarm is actuated

2.2.1.6 The means of escape from the photographic dark room on the ground floor is via a revolving door designed to exclude daylight. The door does not provide for a quick and easy exit as would be recommended as a satisfactory means of escape. Furthermore it is unlikely that the fire alarm would be heard within the dark room.

2.2.1.7 **Recommendation. (Very high risk).** A means of indicating that persons were occupying the dark room should be provided outside the entrance door. Fire Wardens should be particularly careful to check the occupancy during an emergency evacuation. An audibility test should be carried out the confirm that the fire alarm can be heard at 96 decibels within the dark room.

2.2.1.8 The Evacuation Plan should allow for the careful carrying of disabled people down stairs with or without their wheelchairs. There will be a need to take into account health and safety manual handling procedures in addition to the dignity and confidence of the disabled person.

2.2.1.9 **Recommendation. (High risk).** Only in exceptional circumstances should staff or visitors confined to wheelchairs be allowed on the

upper floors of the building. It would be extremely difficult to evacuate these persons in a wheelchair down several flights of stairs. It would be a slow, laborious and possible dangerous exercise which could only be undertaken by a number of able bodied persons. Consideration should be given to providing equipment which is specifically designed to evacuate non-ambulant persons safely. At the time of the Fire Risk Assessment televisions and other media equipment were obstructing the stairs at the north end of the building. This storage should be removed.

2.3. Part III. Fire protection systems.

2.3.1 Fire detection and warning systems. The fire alarm system extends to this building.

2.3.2 Portable fire fighting equipment and facilities. There are suitable and sufficient portable fire fighting extinguishers fitted in the building. This is satisfactory, but see recommendation below.

2.3.2.1 **Recommendation: (Intermediate risk).** At the time of the Fire Risk Assessment there were a number of carbon dioxide extinguishers which were found to be out of date. The last date recorded on the label was August 2000. It should be confirmed that all portable fire extinguishers have been inspected during the last 12 months.

2.3.3 Fixed fire fighting installations. There are fire hose reels fitted in this building. At the time of the Fire Risk Assessment it was not clear whether this equipment had been the subject of inspection and testing.

2.3.3.1 **Recommendation: (Intermediate risk).** The fire hose reels should be included with the annual inspection and testing of the portable fire extinguishers.

2.3.4 Emergency escape lighting. The emergency lighting system extends to this building.

2.3.5 Signs and notices

2.3.5.1 Escape signs. Suitable and sufficient escape signs indicating the means of escape from the building were displayed.

2.3.5.2 Fire door signs. The fire resistant doors were fitted with signs indicating “fire door keep closed”.

2.3.5.3 Fire action signs. There were suitable and sufficient fire action signs displayed throughout the building.

2.4 Part IV. Construction of the building.

2.4.1 Fire separation. The structural fire separation in a building should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape routes in this building comprise the walls, floors, and ceilings of the corridors and the staircase enclosures. This includes the glass screens and the doors to the staircase enclosure.

2.4.1.1 **Recommendation. (Very high risk).** All props and wedges restraining the doors in the open position should be removed.

2.4.1.2 **Recommendation: (High risk).** The electrical switchgear cupboards and other doors separating service ducts and plant rooms from the means of escape route should be confirmed as being of 30 minutes fire resistance. These cupboards should cleared of combustible storage and locked shut.

2.4.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above.

2.4.2.1 **Recommendation (Intermediate risk).** Particular attention should be given to the inspection and cleaning of the extractor fans within the toilets on each floor. Charging adaptors and electric air fresheners should be unplugged when the building is unoccupied.

2.4.3 Gas installation. The gas main rises from the Plant Room on the lower ground floor up through the service duct to the roof level Boiler Room. There are shut off valves at both the lower and upper level. In addition, an automatic weighted valve is installed that will shut the gas supply off to the boilers should a fire occur in the boiler room.

2.4.4 **Recommendation: (High risk).** The automatic shut off valve should be tested at regular intervals to ensure that it operates correctly. The gas installation should be inspected and maintained in accordance with The Gas Safety (Installation and Use) Regulations 1998 by an accredited gas maintenance company under the direction of the Property Holdings Department.

2.5 Part V. Fire safety management of the building.

2.5.1 Waste management/housekeeping. The waste is cleared from the building daily and deposited in skips which are sited at the north end of the building. At the time of the Fire Risk Assessment the skips were located very close to the building and should a fire occur in them it is likely that the building would be involved.

2.5.1.1 **Recommendation: (Intermediate risk).** Waste skips should be located no nearer than 6 metres to a building.

2.6 Part VI Conclusions.

2.6.1 Risk assessment.

2.6.1.1 Risk of fire occurring: Low: due to the low risk processes carried on.

2.6.1.1 Risk of injury to persons occupying this area if a fire did occur: Very high: due to the poor maintenance of the fire separation which has been installed within the building.

2.6.2 Assessors' comments. The building is well constructed with all fire safety systems in place. However, a safe means of escape in case of fire is severely compromised by the misuse of the fire resistant doors protecting the means of escape routes by being propped or wedged open by the occupants of the offices. This produces a very dangerous condition, as if fires occur on any of the floors, the escape routes would quickly be filled with smoke trapping the occupants. It is important to address this matter as soon as possible.

G – HEALTH CENTRE

The building is a single storey porta-cabin type development recently refurbished to a high standard.

2.1 Part One. Fire.

2.1.3 Sources of ignition. The sources of ignition are those associated with an administrative building. Electrical equipment, including computers, copiers, shredders and other office equipment. The heating is by electrical convector heaters. No smoking is allowed in any part of the building.

2.1.4 Sources of fuel. Within the offices there is paper, card, plastics, textiles; and cardboard.

2.1.4.1 **Recommendation: (High risk)**. Desks and workstations should be kept in a tidy condition with combustible materials stored tidily

and away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in stairwells where they can become an obstruction. Stairwell enclosures and fire escape routes should be kept clear of all combustible material.

2.1.5 Sources of oxygen. The surrounding air is the only source of oxygen; there are no oxidising substances or oxygen cylinders.

2.1.5.1 **Recommendation. (Intermediate risk).** Fire marshals should be instructed to close all windows and doors when the fire alarm is actuated so as not to (i) provide further oxygen to the areas of the fire and (ii) distribute smoke to the escape routes.

2.2 Part II. People.

2.2.1 People at risk.

2.2.1.1 Approximately 50 persons are normally present in the building.

2.2.1.2 Occasional contractors and visitors are present in the building, maximum number: 5.

2.2.1.3 There may be disabled or non-ambulant using the building.

2.2.1.4 Means of escape in case of fire and escape routes. The means of escape routes lead from the working areas into the corridors and then to open air from the final exit doors which are located at the ends of the corridors. This is satisfactory. However, some of the fire resistant doors leading to the escape route were found to be propped or wedged open at the time of the Fire Risk Assessment. This is not satisfactory.

2.2.1.5 **Recommendation: (High risk).** Leaving doors propped or wedged open severely compromises the safety of the means of escape route. When the door is open smoke from a fire in an adjoining room could enter the corridor cutting off the escape of the occupants. All wedges and other devices for restraining the doors should be removed. If it is necessary for the efficient management of the building for the doors to be open, then they should be retained by a magnetic retaining device which releases the door to the closed position on the actuation of the fire alarm.

2.2.1.6 **Recommendation: (High risk).** The corridor escape route should be cleared of all combustible materials including waste bins and decorate plants.

2.2. Part III. Fire protection systems.

2.2.2 Fire detection and warning systems. The fire alarm system extends to this building.

2.2.3 Portable fire fighting equipment and facilities. There are suitable and sufficient portable fire extinguishers fitted in the building.

2.2.4 Fixed fire fighting installations. There are no fixed fire fighting installations in this building.

2.2.5 Emergency escape lighting. The emergency lighting system extends to this part of the building.

2.2.6 Signs and notices

2.2.6.1 Escape signs. There are suitable and sufficient signs indicating the direction of the means of escape from the building.

2.2.6.2 Fire door signs. All fire resistant doors in the building have signs displayed stating “fire door, keep closed”.

2.2.6.3 Fire action signs. There are suitable and sufficient fire action signs displayed in the building.

2.5. Part IV Construction of the building.

2.5.1 Fire separation. The structural fire separation in a building should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape route in this building comprise the walls, floors, and ceilings of the corridors. This includes the doors to the working areas leading from the corridors, all of which should have a minimum fire resistance of 30 minutes, the doors should also be self closing and fitted with an intumescent smoke and fire seal in accordance with British Standard 1634. In this building the doors are of a good standard.

2.5.1.1 Recommendation. (Very high risk). As referred to above, a number of the fire resistant doors leading from the escape routes to the working areas were propped or wedged open. This is not satisfactory,

2.5.1.2 **Recommendation: (High risk).** The electrical switchgear cupboards. The door to the electric switchgear cupboards should be

confirmed as being of 30 minutes fire resistance. These cupboards should cleared of combustible storage and locked shut.

2.5.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above.

2.5.2.1 **Recommendation (Intermediate risk).** Particular attention should be given to the inspection and cleaning of the extractor fans within the toilets on each floor. Charging adaptors and electric air fresheners should be unplugged when the building is unoccupied.

2.5.3 Surface spread of flame. The surface spread of flame standard for the walls has been considerably reduced by the large notice boards fixed within the escape routes. This is not satisfactory.

2.5.3.1 **Recommendation: (High risk).** Notice boards located on escape routes should be covered with a film of transparent polycarbonate.

2.6. Part V Fire safety management of the building.

2.6.1 Waste management/housekeeping. The building is generally clean and tidy. However, waste bins and other combustible materials were present in the corridors forming the escape routes. This is not satisfactory.

2.6.1.1 **Recommendation: (Intermediate risk).** Waste bins and combustible materials should be removed from the corridors forming the escape routes.

2.6.3 Further hazards.

2.6.3.1 There are no further hazards in this building.

2.7 Part VI. Conclusions.

2.7.1 Risk assessment.

2.7.1.1 Risk of fire occurring: Low: due to the high standard of fire safety management practised within the building.

2.7.1.2 Risk of injury to persons occupying this area if a fire did occur: High: this is due at present to the doors which lead from the working areas to the escape corridors propped or wedged open. Once this matter has been attended to the risk will be reduced to low.

2.7.2 Assessors' comments. This building has been constructed to high standards of fire safety. However, the risk to the occupants will be at a

high level as long as doors from the working areas to the escape route corridor are allowed to remain open. This matter should receive immediate attention.

H – INFORMATION CENTRE

The building is a single storey porta-cabin type development recently refurbished to a high standard.

2.1 Part One. Fire.

2.1.1 Sources of ignition. The sources of ignition are those associated with an administrative building. That is to say electrical equipment, including computers, copiers, shredders and other office equipment. The heating is by electrical convector heaters. No smoking is allowed in any part of the building.

2.1.2 Sources of fuel. Within the offices there is paper, card, plastics, textiles; and cardboard.

2.1.2.1 **Recommendation: (High risk)**. Desks and workstations should be kept in a tidy condition with combustible materials stored tidily and away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in stairwells where they can become an obstruction. Stairwell enclosures and fire escape routes should be kept clear of all combustible material.

2.3.2 Sources of oxygen. The surrounding air is the only source of oxygen; there are no oxidising substances or oxygen cylinders.

2.3.2.1 **Recommendation.** (Intermediate risk). Fire marshals should be instructed to close all windows and doors when the fire alarm is actuated so as not to (i) provide further oxygen to the areas of the fire and (ii) distribute smoke to the escape routes.

2.4 Part II. People.

2.4.2 People at risk.

2.4.2.1 Approximately 50 persons are normally present in the building.

2.4.2.2 Occasional contractors and visitors are present in the building, maximum number: 5.

2.4.2.3 There may be disabled or non-ambulant using the building.

2.4.2.4 Means of escape in case of fire and escape routes. The means of escape routes lead from the working areas into the corridors and then to open air from the final exit doors which are located at the ends of the corridors. This is satisfactory. However, some of the fire resistant doors leading to the escape route were found to be propped or wedged open at the time of the Fire Risk Assessment. This is not satisfactory.

2.4.2.5 **Recommendation: (High risk).** Leaving doors propped or wedged open severely compromises the safety of the means of escape route. When the door is open smoke from a fire in an adjoining room could enter the corridor cutting off the escape of the occupants. All wedges and other devices for restraining the doors should be removed. If it is necessary for the efficient management of the building for the doors to be open, then they should be retained by a magnetic retaining device which releases the door to the closed position on the actuation of the fire alarm.

2.4.2.6 Recommendation: (High risk). The corridor escape route should be cleared of all combustible materials including waste bins and decorate plants.

2.5 Part III. Fire protection systems.

2.5.2 Fire detection and warning systems. The fire alarm system extends to this building.

2.5.3 Portable fire fighting equipment and facilities. There are suitable and sufficient portable fire extinguishers fitted in the building.

2.5.4 Fixed fire fighting installations. There are no fixed fire fighting installations in this building.

2.5.5 Emergency escape lighting. The emergency lighting system extends to this part of the building.

2.5.6 Signs and notices

2.5.6.1 Escape signs. There are suitable and sufficient signs indicating the direction of the means of escape from the building.

2.5.6.2 Fire door signs. All fire resistant doors in the building have signs displayed stating “fire door, keep closed”.

2.5.6.3 Fire action signs. There are suitable and sufficient fire action signs displayed in the building.

2.5. Part IV Construction of the building.

2.5.4 Fire separation. The structural fire separation in a building should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape route in this building comprise the walls, floors, and ceilings of the corridors. This includes the doors to the working areas leading from the corridors, all of which should have a minimum fire resistance of 30 minutes, the doors should also be self closing and fitted with an intumescent smoke and fire seal in accordance with British Standard 1634. In this building the doors are of a good standard. This is satisfactory.

2.5.4.1 **Recommendation. (Very high risk).** As referred to above, a number of the fire resistant doors leading from the escape routes to the working areas were propped or wedged open. This is not satisfactory.

2.5.4.2 **Recommendation: (High risk).** The electrical switchgear cupboards. The door to the electric switchgear cupboards should be confirmed as being of 30 minutes fire resistance. These cupboards should cleared of combustible storage and locked shut.

2.5.5 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above.

2.5.5.1 **Recommendation (Intermediate risk).** Particular attention should be given to the inspection and cleaning of the extractor fans within the toilets on each floor. Charging adaptors and electric air fresheners should be un plugged when the building is unoccupied.

2.5.6 Surface spread of flame. The surface spread of flame standard for the walls has been considerably reduced by the large notice boards fixed within the escape routes. This is not satisfactory.

2.5.6.1 **Recommendation: (High risk).** Notice boards located on escape routes should be covered with a film of transparent polycarbonate.

2.7. Part V Fire safety management of the building.

2.6.1 Waste management/housekeeping. The building is generally clean and tidy. However, waste bins and other combustible materials were present in the corridors forming the escape routes. This is not satisfactory.

2.6.1.1 **Recommendation: (Intermediate risk).** Waste bins and combustible materials should be removed from the corridors forming the escape routes.

2.5.7 Further hazards.

2.5.7.1 There are no further hazards in this building.

2.6 Part VI. Conclusions.

2.6.2 Risk assessment.

2.6.2.1 Risk of fire occurring: Low: due to the high standard of fire safety management practised within the building.

2.6.2.2 Risk of injury to persons occupying this area if a fire did occur: High: this is due at present to the doors which lead from the working areas to the escape corridors propped or wedged open. Once this matter has been attended to the risk will be reduced to low.

2.6.3 Assessors' comments. This building has been constructed to high standards of fire safety. However, the risk to the occupants will be at a high level as long as doors from the working areas to the escape route corridor are allowed to remain open. This matter should receive immediate attention.

I – SCHOOL OF ART

2.1 Description of the building/area. This is a building of two floors built of steel frames with block infill and a flat roof. It is used as offices, classrooms and workshops for the teaching of art subjects.

2.2. Part I Fire.

2.2.1 Sources of ignition. The sources of ignition are those associated with an administrative building coupled with some workshops. Electrical equipment, including electrical motors within the workshops, computers, copiers, shredders and other office equipment. In the ground floor Plant Room there is a risk of fire from the gas fired boiler malfunctioning and the heavy electrical equipment developing a fault. No smoking is allowed in any part of the building.

2.2.2 Sources of fuel. Within the offices and classrooms there is a considerable quantity of paper, card, plastics, textiles; and cardboard. Within the workshops there is a variety of combustible materials, including timber and liquefied petroleum gas in small cylinders. The only other major source of

fuel is the gas used for heating the premises and burned by the boilers located in the Plant Room on the ground floor. This equipment is well maintained and under constant supervision. The desks and workstations were, at the time of the Fire Risk Assessment, strewn with combustible paper and other materials. It is understood that much of this comprise semi-completed art projects. However, the work stations should be tidied as far as possible at the end of the working day to reduce the combustible materials to a minimum.

2.2.2.1 **Recommendation: (High risk)**. Efforts should be made to store combustible materials away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, easels and completed art projects should not be placed in corridors or in stairwells where they can become an obstruction. Stairwell enclosures and fire escape routes should be kept clear of all combustible material.

2.2.3 Sources of oxygen. The surrounding air is the only source of oxygen; there are no oxidising substances or oxygen cylinders.

2.2.3.1 **Recommendation.** (Intermediate risk). Fire marshals should be instructed to close all windows and doors when the fire alarm is actuated so as not to (i) provide further oxygen to the areas of the fire and (ii) distribute smoke to the escape routes.

2.3 Part II. People.

2.3.1 People at risk.

2.3.1.1 Approximately 100 persons are normally present in the building.

2.3.1.2 Occasional contractors and visitors are present in the building, maximum number: 5.

2.3.1.2 Five of the total are likely to be disabled or non-ambulant. There is no equipment used to carry non-ambulant persons down the stairs. This is not satisfactory.

2.3.1.3 The Evacuation Plan should allow for the careful carrying of disabled people down stairs with or without their wheelchairs, There will be a need to take into account health and safety manual handling procedures in addition to the dignity and confidence of the disabled person.

2.3.1.4 **Recommendation. (High risk).** Only in exceptional circumstances should staff or visitors confined to wheelchairs be allowed on the upper floors of the building. It would be extremely difficult to evacuate these persons in a wheelchair down several flights of stairs. It would be a slow, laborious and possible dangerous exercise which could only be undertaken by a number of able bodied persons. Consideration should be given to providing equipment which is specifically designed to evacuate non-ambulant persons safely.

2.3.1.5 Means of escape in case of fire and escape routes. There is a single staircase leading from the upper floor of the building to ground floor level and out to open air. The routes to open air from the ground floor rooms are either from the working areas to the corridors and then to the staircase enclosures and to open air via the final exit doors, or in the case of the workshops and classrooms numerous doors lead directly to open air. The means of escape via these routes will only be satisfactory if the doors leading on to the corridor and the staircase enclosure at each level of the building are retained in the closed position in order to insulate the staircase enclosures and the corridors from any fires or products of combustion which may be present in the working areas. It is important therefore that Fire Marshals on each floor and security staff are vigilant in ensuring that the doors are closed at all times and not propped or wedged open, as many of them were at the time of the Fire Risk Assessment.

2.3.1.6 **Recommendation: (High risk).** The staircase enclosure should be cleared of all combustible materials including waste bins and decorative plants.

2.4 Part III. Fire protection systems.

2.4.1 Fire detection and warning systems. The fire alarm system extends to this building.

2.4.2 Portable fire fighting equipment and facilities. There are suitable and sufficient portable fire extinguishers fitted in the building.

2.4.3 Fixed fire fighting installations. There are no fixed fire fighting installations in this building.

2.4.4 Emergency escape lighting. The emergency lighting system extends to this building.

2.4.5 Signs and notices

2.4.5.2 Escape signs. Suitable and sufficient signs indicating the means of escape route are displayed in this building.

2.4.5.3 Fire door signs. The fire resistant doors are fitted with signs indicating "fire door, keep closed". These signs are to remind the occupants that the doors must be closed. At the time of the Fire Risk Assessment many were wedged or propped open.

2.4.5.4 **Recommendation: (Intermediate risk).** All fire resistant doors protecting the escape route should have a sign indicating "fire door keep closed" fixed to both sides of the door at eye level. All fire resistant doors to store rooms, cupboards, waste chutes or areas of high fire risk should display a sign stating "fire door keep locked shut".

2.4.5.5 Fire action signs. There were suitable and sufficient fire action signs displayed in the building.

2.5 Part IV. Construction of the building.

2.5.1 Fire separation. The structural fire separation in a building should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape route in this building comprise the walls, floors, and ceilings of the corridors and staircase enclosures. This includes the glass screens, and the doors to the staircase enclosure, all of which should have a minimum fire resistance of 30 minutes, the doors should also be self closing and fitted with an intumescent smoke and fire seal in accordance with British Standard 1634.

2.5.1.2 Recommendation. (Very high risk). Refer to the recommendations above concerning the fire resistant doors which are propped or wedged open.

2.5.1.3 **Recommendation: (High risk).** The electrical switchgear cupboards. The doors to the electric switchgear cupboards on every floor should be confirmed as being of 30 minutes fire resistance. These cupboards should be cleared of combustible storage and locked shut.

2.5.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above.

2.5.2.2 **Recommendation (Intermediate risk).** Particular attention should be given to the inspection and cleaning of the extractor fans within the toilets on each floor. Charging adaptors and electric air fresheners should be unplugged when the building is unoccupied.

2.5.3 Gas installation. It is understood that the gas installation, together with the gas boilers, is inspected and maintained at regular intervals by an accredited contractor under the direction of the Property Holdings Department.

2.5.4 Surface spread of flame. The surface spread of flame standard for the walls has been considerably reduced by the large notice boards fixed within the escape routes.

2.5.4.2 **Recommendation: (High risk).** Where it is necessary to display notice boards along the means of escape route, the boards should be covered with a film of transparent polycarbonate.

2.6 Part V. Fire safety management of the building.

2.6.1 Waste management/housekeeping. The building is generally untidy. This may be due to the nature of the processes carried on where art projects are on-going and in various stages of completion.

2.6.1.2 **Recommendation: (Intermediate risk). A**n effort should be made to clear as much waste as possible at the end of each working day, leaving a minimum of combustible material in the premises.

2.6.2 Further hazards.

2.6.2.2 The liquefied petroleum gas cylinder located in the pottery workshop should be removed and stored in a ventilated cage adjacent to the building.

2.7 Part six. Conclusions.

2.7.1 Risk assessment.

2.7.1.2 Risk of fire occurring: Intermediate. The considerable quantity of combustible material in the classrooms and the workshops have raised the risk of fire.

2.7.1.3 Risk of injury to persons occupying this area if a fire did occur: High: due to the number of fire resistant doors which have been propped or wedged open.

2.7.2 Assessors' comments. Whilst it is understood that a building of this nature with the teaching processes carried on will always have considerable amounts of combustible materials within the classrooms and workshops, however, an effort should be made to reduce these as far as possible.

J. FACULTY OF CONSTRUCTION & ENGINEERING

A building of one and two floors used as an educational establishment for the teaching of practical subjects connected with the construction and engineering industry. There are also a number of associated offices and classrooms within the building. It is built with brick for the lower walls, with corrugated still insulated cladding on the upper walls, with a flat roof.

2.1 Part I. Fire.

2.1.1 Sources of ignition. The sources of ignition are those associated with an administrative building with a number of different types of workshop. Electrical equipment, including electrical motors within the workshops, computers, copiers, shredders and other office equipment. In the workshops there is a risk of the heavy electrical equipment developing a fault. No smoking is allowed in any part of the building.

2.1.2 Sources of fuel. Within the offices there is paper, card, plastics, textiles; and cardboard. Within the woodworking workshops there is a large quantity of timber, shavings and sawdust. Dust is collected by a dust extraction system from the woodworking machines depositing the dust in a large container in the centre of the workshop. This equipment is well maintained and under constant supervision. No gas is installed within the building.

2.1.2.1 **Recommendation: (High risk)**. Desks and workstations should be kept in a tidy condition with combustible materials stored tidily and away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in stairwells where they can become an obstruction. Stairwell enclosures and fire escape routes should be kept clear of all combustible material.

2.1.2.2 **Recommendation:** The dust collected by the dust extraction system in the woodworking workshops should be removed at the end of the working day and deposited at a collection point exterior to the building.

2.1.3 Sources of oxygen. The surrounding air is the only source of oxygen; there are no oxidising substances or oxygen cylinders.

2.1.3.1 **Recommendation.** (Intermediate risk). Fire marshals should be instructed to close all windows and doors when the fire alarm is actuated so as not to (i) provide further oxygen to the areas of the fire and (ii) distribute smoke to the escape routes.

2.2 Part II. People.

2.2.1 People at risk.

2.2.1.1 Approximately 150 people are normally present in the building.

2.2.1.2 Occasionally contractors and visitors are present in the building, maximum number 5.

2.2.1.3 Occasionally disabled or non-ambulant persons have access to the premises. There is no equipment used to carry non-ambulant persons down the stairs. This is not satisfactory.

2.2.1.4 The Evacuation Plan should allow for the careful carrying of disabled people down stairs with or without their wheelchairs, There will be a need to take into account health and safety manual handling procedures in addition to the dignity and confidence of the disabled person.

2.2.1.5 **Recommendation. (High risk).** Only in exceptional circumstances should staff or visitors confined to wheelchairs be allowed on the upper floors of the building. It would be extremely difficult to evacuate these persons in a wheelchair down several flights of stairs. It would be a slow, laborious and possible dangerous exercise which could only be undertaken by a number of able bodied persons. Consideration should be given to providing equipment which is specifically designed to evacuate non-ambulant persons safely.

2.2.1.6 Means of escape in case of fire and escape routes. There is one staircase which leads from the upper floors of the building to ground floor level and out to open air. The means of escape via these stairs will only be satisfactory if the doors leading on to the staircase enclosure at each level in the building are retained in the closed position in order to insulate the staircase enclosure from any fire or products of combustion which may be present in the working areas. It is important therefore that the Fire Marshals on each floor and the security staff are vigilant in ensuring that the doors are closed at all times and not wedged open. At the time of the Fire Risk Assessment many of the fire resistant doors leading to the corridors and the staircase enclosure were propped or wedged open. This is not satisfactory. It is important that the single staircase enclosure is cleared of all combustible material, electrical equipment and obstructions in order to allow free passage of persons escaping from the upper floor.

2.2.1.7 **Recommendation: (High risk).** The staircase enclosure should be cleared of all combustible materials including waste bins and decorative plants. The vending machine and the copying machine located on the ground floor of the staircase enclosure should be removed as they present a fire risk which would produce smoke which would prevent the staircase from being used by the occupants of the upper floors.

2.2.1.8 The means of escape from the ground floor offices is from the work areas to the corridor and then to the staircase enclosure and then the main doors to open air. Many of the doors leading on to the corridor from the work areas were propped or wedged open. This is not satisfactory.

2.2.1.9 **Recommendation:** The fire resistant doors leading on to the escape corridor from the work areas should never be propped or wedged open. These doors protect the escape route for the occupants of the offices and work areas. Fire Marshalls should ensure that these doors are closed at all times. If it is necessary for the efficient management of the building for the doors to remain open during working hours, then magnetic door restraining devices should be fitted which will release the doors to the closed position on the actuation of the fire alarm system.

2.3 Part III. Fire protection systems.

2.3.1 Fire detection and warning systems. The fire alarm system extends to all parts of this building.

2.3.2 Portable fire fighting equipment and facilities. There are suitable and sufficient portable fire extinguishers fitted in this building.

2.3.2.1 **Recommendation: (Intermediate risk).** Care should be taken to ensure that the fire extinguishers fitted within the woodworking workshops are not obstructed by the storage of timber or the work in hand. It should be made part of the Fire Marshall's duties to monitor this.

2.3.2.2 **Recommendation. (Intermediate risk).** The hose reel fitted on the first floor corridor should be inspected and tested every 12 months with the portable fire extinguishers.

2.3.3 Fixed fire fighting installations. There are no fixed fire fighting installations in this building.

2.3.4 Emergency escape lighting. The emergency lighting system extends to all parts of this building.

2.3.5 Signs and notices

2.3.5.1 Escape signs. Suitable and sufficient signs indicating the means of escape from the building are displayed in all parts of the building..

2.3.5.2 Fire door signs. The fire resistant doors within the building have been fitted with signs indicating "fire door, keep closed".

2.3.5.3 Fire action signs. At the time of the Fire Risk Assessment there were no signs indicating the action to be taken in case of fire displayed throughout the building.

2.3.5.4 **Recommendation: (High risk).** Signs indicating the action to be taken in case of fire and upon hearing the fire alarm should be displayed at all exits from the building and within the staff coffee rooms.

2.4 Part IV. Construction of the building.

2.4.1 Fire separation. The structural fire separation in a building should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape route in this building comprise the walls, floors, and ceilings of the corridors and staircase enclosures. This includes the glass screens, and the doors to the staircase enclosure, all of which should have a minimum fire resistance of 30 minutes, the doors should also be self closing and fitted with an intumescent smoke and fire seal in accordance with British Standard 1634.

2.4.1.1 **Recommendation. (Very high risk).** The fire resistant self-closing doors which provide separation from the working areas and the fire escape route have been referred to above. Many of these doors were propped or wedged open; it is emphasised that these must be closed in order to complete the fire separation for the building.

2.4.1.2 **Recommendation: (High risk).** The electrical switchgear cupboards. The doors to the electric switchgear cupboards on every floor should be confirmed as being of 30 minutes fire resistance. These cupboards should cleared of combustible storage and locked shut.

2.4.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above.

2.4.2.1 **Recommendation (Intermediate risk).** Particular attention should be given to the inspection and cleaning of the extractor fans within the toilets on each floor.

2.4.2.2 **Recommendation: (High risk).** Careful use should be made of portable electrical equipment; extension leads and adaptors should not be overloaded, charging adaptors for mobile telephones should be unplugged at night and electrical plug-in air fresheners should never be left unattended whilst switched on. If devices are used to re-charge batteries these should never be left on overnight whilst the building is unoccupied.

2.4.3 Surface spread of flame. The surface spread of flame standard for the walls has been considerably reduced by the large notice boards fixed within the escape routes.

2.4.3.1 **Recommendation: (High risk**). If notice boards are to be fixed on escape routes, then they should be covered with clear polycarbonate to reduce to risk of flame spreading across the face of the notices.

2.5 Part V. Fire safety management of the building.

2.5.1 Waste management/housekeeping. The building is generally clean and tidy. However, it is important that the storage of timber within the woodworking workshops is monitored so as not to become haphazard or cause an obstruction to the fire alarm points, the portable extinguishers, or the exits from the building. In addition, the clearing of waste sawdust and shavings from the areas should be carried out frequently.

2.5.1.1 **Recommendation: (Intermediate risk).** Fire Marshalls should monitor the situation within the woodworking workshops ensuring that the housekeeping there is retained at a high standard.

2.5.2 Further hazards.

2.5.2.1 The dust extraction systems within the woodworking workshops can constitute a high risk, particularly if a metal part is struck by the woodworking machinery with a spark being induced into the dust extraction system.

2.5.2.2 **Recommendation:** Particular attention should be given to ensuring that the timber used on the woodworking machines where the dust extraction system is fitted, is free of nails and other metal parts.

2.6 Part VI Conclusions.

2.6.1 Risk assessment.

2.6.1.1 Risk of fire occurring: Intermediate. This is due to the higher risk of the woodworking workshops.

2.6.1.2 Risk of injury to persons occupying this area if a fire did occur: High. This is due to the situation found at the time of the Fire Risk Assessment where the doors to the escape corridors and the staircase enclosure were propped or wedged open. If the wedges are removed and the doors are allowed to close firmly on to their rebates, then the risk of injury to persons would be reduced to intermediate. The risk would never be lower in this building as the means of escape for the occupants on the upper floor relies entirely on a single staircase.

2.6.2 Assessors' comments. The installed fire safety construction and systems within this building is at a high standard. However, the maintenance of the means of escape routes is poor, due to the doors which protect the corridor and staircase enclosure being propped or wedged open. It cannot be over emphasised that the

situation found during the Fire Risk Assessment was potentially extremely dangerous. The only means of escape from the upper floor is the single staircase, and if this is compromised by a wedging of fire resistant doors, there will be no alternative means of escape for the occupants of the upper floors.

K – NASH BUILDING (Painting and Decorating Workshop and a Trowel Trades Workshop).

The building is single storey with internal mezzanine floors and is built of corrugated steel with a corrugated steel roof. Used as an educational workshop complex.

2.1 Part I. Fire.

2.1.1 Sources of ignition. The sources of ignition are those associated with an industrial workshop. Electrical equipment, including large electrical motors and cabling. In the classroom areas there are computers and other office equipment. A compressor is fitted in an exterior Plant Room. No smoking is allowed in any part of the building.

2.1.2 Sources of fuel. Within the classroom areas there is paper, card, plastics, textiles; and cardboard. Within the Trowel Trades Workshop there are limited sources of fuel as this is a brick and masonry construction area. The part of the building used for the teaching of painting and decorating has timber, paints and solvents has large quantities of flammable liquids used in the workshop and stored in flameproof containers.. There is liquefied petroleum gas stored in the compressor plant room. No gas is installed within the building.

2.1.2.1 **Recommendation: (High risk)**. The liquefied petroleum gas cylinders stored within the compressor plant room are in a dangerous location. There is little or no ventilation should the cylinders leak, and the sparks provided by the compressor starting up would ignite the gas with explosive force.

2.1.2.2 **Recommendation:** The liquefied petroleum gas cylinders should be removed from the compressor plant room and stored within a ventilated cage on the exterior of the building.

2.1.2.3 Sources of oxygen. The surrounding air is the only source of oxygen; there are no oxidising substances or oxygen cylinders.

2.1.2.4 **Recommendation.** (Intermediate risk). Fire marshals should be instructed to close all windows and doors when the fire alarm is actuated so as not to (i) provide further oxygen to the areas of the fire and (ii) distribute smoke to the escape routes.

2.2 People

2.2.2 People at risk.

2.2.2.3 Approximately 50 people are normally present in the building.

2.2.2.4 Occasionally contractors and visitors are present in the building, maximum number 5.

2.2.2.5 It is not clear how many of the total are likely to be disabled or non-ambulant. However, there is no equipment used to carry non-ambulant persons down the stairs from the classrooms on the mezzanine floor. This is not satisfactory.

2.2.2.6 **Recommendation: (High risk).** If disabled or non-ambulant persons are to use the mezzanine floors, then the evacuation plan should allow for the careful carrying of disabled people down stairs with or without their wheelchairs, There will be a need to take into account health and safety manual handling procedures in addition to the dignity and confidence of the disabled person.

2.2.2.7 Means of escape in case of fire and escape routes. The means of escape from the ground floor of the building is via the final exit doors direct to open air. The means of escape from the mezzanine floors is via the staircases down to the ground floor of the building and to the final exit doors direct to open air.

2.2.2.8 **Recommendation: (High risk).** All doors leading to open air on the ground floor of the building should be available for use whilst persons are in the building. The route to these final exit doors should be maintained clear of obstructions and ongoing projects should be sited so as not to obstruct these routes.

2.3 Part III. Fire protection systems.

2.3.1 Fire detection and warning systems. The fire alarm system extends to this building. There are smoke detectors or heat detectors fitted in every room and corridor. Manual call points are located on every floor within both staircase enclosures.

2.3.2 Portable fire fighting equipment and facilities. There are suitable and sufficient portable fire extinguishers fitted in the building.

2.3.2.3 **Recommendation: (Intermediate risk).** Storage of materials and siting of ongoing projects should not obstruct the portable fire fighting equipment.

2.3.3 Fixed fire fighting installations. There are no fixed fire fighting installations in this building.

2.3.4 Emergency escape lighting. The emergency lighting system extends to this building.

2.3.5 Signs and notices.

2.3.5.3 Escape signs. Suitable and sufficient signs indicating the means of escape from the building were displayed.

2.3.5.4 Fire door signs. Fire door signs were not necessary in this building.

2.3.5.5 Fire action signs. There were no fire action signs displayed in the building. This is not satisfactory.

2.3.5.6 **Recommendation:** Signs indicating the action to be taken in case of fire and upon heating the fire alarm should be displayed at all exit doors from the building and within the small classroom on the mezzanine floor of the Trowel Trades area.

2.4 Part IV. Construction of the building.

2.4.1.3 Fire separation. This is a small building requiring no fire separation.

2.4.1.4 **Recommendation: (High risk).** The electrical switchgear cupboards. The doors to the electric switchgear cupboards should be confirmed as being of 30 minutes fire resistance. These cupboards should cleared of combustible storage and locked shut.

2.4.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above.

2.4.3.1 **Recommendation:** Notice boards fixed within escape routes should be reduced to a minimum, but if required should be covered with a film of clear polycarbonate.

2.5 Part V. Fire safety management of the building.

2.5.1 Waste management/housekeeping. The building is kept in a tidy condition.

2.5.1.3 **Recommendation:** It is important to ensure, particularly in the painting and decorating area of the building, that the storage of timber, etc is located so as not to obstruct the fire alarm points, the portable fire extinguishers or the means of escape routes.

2.5.2 Further hazards.

2.5.2.3 Within the painting and decorating part of the building flammable paints and solvents are used in large amounts.

2.5.2.4 **Recommendation:** All flammable paints and solvents should be stored in a flame proof store, preferably on the exterior of the building. Only sufficient materials required for a day's work should be brought into the workshop, the residue being returned to the flammable store at the end of the working day.

2.6 Part VI. Conclusions.

2.6.1 Risk assessment.

2.6.1.3 Risk of fire occurring: Within the Trowel Trades Workshop, Low, due to the absence of combustible or flammable materials. Within the painting and decorating workshop, Intermediate, due to the presence of flammable paints and solvents.

2.6.1.4 Risk of injury to persons occupying this area if a fire did occur: Within the Trowel Trades Workshop, Low, due to the satisfactory means of escape from the building. Within the Painting and Decorating area, Intermediate, due to the presence of flammable paints and solvents which may pose an explosive risk.

2.6.2 Assessors' comments. The means of escape from this building is good, but the presence of flammable paints and solvents within the painting and decorating area is a potential risk. Fire Marshals should be ensure that the flammable materials are being used with due care.

L. THE LAUNDRY and ADJOINING OFFICE BUILDING

This is a small single storey detached building separated into two uses as a laundry serving the college and an office with several rooms.

2.1 Part One. Fire.

2.1.1 Sources of ignition. The sources of ignition are those associated with a domestic working area and an administrative building. Electrical equipment, including washers and tumble driers with electrical motors, ironing equipment, small refrigerators, computers, copiers, shredders and other office equipment. No smoking is allowed in any part of the building.

2.1.1.1 Recommendation: (Intermediate risk). Care should be taken when using electrical adapters, e.g. mobile telephone charging adapters, or electrical air fresheners. These devices are known to malfunction, overheat and cause fires. All electrical equipment should be kept clear of combustible material.

2.1.2 Sources of fuel. Within the laundry there is a considerable quantity of textiles awaiting either washing or ironing, in the offices there is paper, card, plastics, textiles; and cardboard. The laundry area was congested and the office area was untidy at the time of the fire risk assessment. No gas is installed within the building.

2.1.2.1 **Recommendation: (High risk)**. The laundry area is confined and congested with machinery and items being processed. This produces not only a fire risk but could restrict the means of escape from the room. An effort should be made to tidy and organise the area. Desks and workstations in the office area should be kept in a tidy condition with combustible materials stored away from electrical sockets, adaptors and extension leads. Stationery and other store cupboards must be managed to ensure that they do not become untidy. Other items of storage, for example cardboard boxes, should not be placed in corridors or in stairwells where they can become an obstruction. Stairwell enclosures and fire escape routes should be kept clear of all combustible material.

2.1.3 Sources of oxygen. The surrounding air is the only source of oxygen; there are no oxidising substances or oxygen cylinders.

2.1.3.1 **Recommendation.** (Intermediate risk). Fire marshals should be instructed to close all windows and doors when the fire alarm is actuated so as not to (i) provide further oxygen to the areas of the fire and (ii) distribute smoke to the escape routes.

2.2 Part two. People.

2.2.1 People at risk.

2.2.1.1 Approximately 5 persons are normally present in the building.

2.2.1.2 Occasionally 2 contractors and visitors are present in the building.

2.2.1.3 None of the total are disabled or non-ambulant

2.2.1.4 **Recommendation: (Very high risk).** All staff and visitors to the building should be made aware of the fire procedures. Visitors should,

where possible, be accompanied, their host ensuring that they leave the building during an emergency evacuation

2.2.1.5 Means of escape in case of fire and escape routes. There are 2 doors which lead from the building. One serving the laundry the other the offices. The means of escape via these doors will only be satisfactory if the routes leading to the doors are kept free of obstructions. This is particularly relevant in the offices part as there are inner room situations where the escape of the occupants will be compromised by a fire occurring in the outer rooms.

2.2.1.6 **Recommendation: (High risk).** The areas must be kept tidy and as far as possible clear of combustible materials.

2.3 Part three. Fire protection systems.

2.3.1.1 Fire detection and warning systems. The fire alarm system extends to this building. There are smoke detectors or heat detectors fitted in every room and corridor. Manual call points are located at the doors to open air.

2.3.2 Portable fire fighting equipment and facilities. There are suitable and sufficient portable fire extinguishers fitted in the building.

2.3.2.4 **Recommendation: (Intermediate risk).** Fire Marshalls should ensure that the fire extinguishers are always location on their brackets or stands and are not obstructed.

2.3.3 Emergency escape lighting. The emergency lighting system does not appear to be installed in this building. This is not satisfactory.

2.3.3.1 **Recommendation: (Very high risk).** Luminaries should be installed so as to illuminate the escape route from each area to the assembly point. The system should be installed in accordance with the British Standard, paragraph 1.13.7.

2.3.4 Signs and notices

2.3.4.1 Escape signs. At the time of the Fire Risk Assessment there were no signs indicating the means of escape from the building. As this is a small building. It is not necessary to display exit signs as it is obvious that there is only a single exit.

2.3.4.2 Fire action signs. There were no fire action signs displayed in the building.

2.3.4.3 **Recommendation. (Intermediate risk).** Signs indicating the action to be taken in the event of fire should be displayed at the doors leading to open air.

2.4 Part four Construction of the building.

2.4.1.1 Fire separation. The structural fire separation in a building should be able to contain a fire in the early stages allowing the occupants of the building to pass along the escape routes safely. The fire separation for the means of escape route in this building comprises the walls, floors, and ceilings. Although due to the small size of the building this is not a consideration.

2.4.2 Electrical equipment. Reference has been made to the maintenance of the electrical equipment in paragraph 1.14 above. This particularly important in regard to the machines in the laundry area.

2.4.2.1 **Recommendation: (High risk).** Careful use should be made of portable electrical equipment; extension leads and adaptors should not be overloaded, charging adaptors for mobile telephones should be unplugged at night and electrical plug-in air fresheners should never be left unattended whilst switched on. If devices are used to re-charge batteries these should never be left on overnight whilst the building is unoccupied.

2.5 Part five. Fire safety management of the building.

2.5.1 Waste management/housekeeping. The building is generally untidy.

2.5.1.1 **Recommendation: (Intermediate risk).** An effort should be made to tidy all areas.

2.5.2 Further hazards.

2.5.2.1 There are no further hazards.

2.6 Part six. Conclusions.

2.6.1 Risk assessment.

2.6.1.1 Risk of fire occurring: Low in the office area, Intermediate in the laundry area, due to the electrical equipment and large quantities of combustible material.

2.6.1.2 Risk of injury to persons occupying this area if a fire did occur: Low due to the close proximity of the means of escape to open air.

2.6.2 Assessors' comments. This is a small compact building. The building appears to be well managed, but it is important to maintain the integrity of the means of escape routes and to regularly practise the fire evacuation procedures. Fire Marshalls should be trained and vigilant in understanding the causes of fire and should be aware of their responsibility not only during the fire evacuation, but also on a daily basis whilst going about their normal duties to keep the areas tidy.

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9 October 2008