

# **RISK PROFILE AND IMPROVEMENT REPORT**

**SHEFFIELD TEACHING HOSPITALS  
NHS FOUNDATION TRUST**

**CENTRAL CAMPUS  
GLOSSOP ROAD  
SHEFFIELD  
SOUTH YORKSHIRE. S10 2JF**

**14TH & 15TH DECEMBER 2015**



# VISIT DETAILS

Client / Group	Sheffield Teaching Hospitals NHS Foundation Trust	
Division	Central Campus	
Location	Glossop Road, Sheffield, South Yorkshire. S10 2JF	
Date of inspection	14 <sup>th</sup> & 15 <sup>th</sup> December 2015	
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This report has been prepared solely for the use of the above named client for insurance and risk control purposes related to fire and similar risks and perils and may be relied upon only by that company and not by any other party. It does not imply that no other hazardous conditions exist. The facts described and opinions expressed are valid at the date of inspection.



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# EXECUTIVE SUMMARY

This inspection was carried out to obtain underwriting information and to provide advice, where appropriate, on risk control and loss prevention related to Property Damage and Business Interruption. The time and assistance given to me on site is acknowledged with gratitude.

Sheffield Teaching Hospitals achieved Trust status in 2004. Sheffield Teaching Hospitals comprises two main campus sites designated as Northern Campus (Northern General Hospital, subject to a separate report) and this Central Campus, which has four main building ranges:

- Royal Hallamshire Hospital;
- Jessop Wing;
- Weston Park Hospital;
- Charles Clifford Dental Hospital.

Royal Hallamshire Hospital includes the main outpatients department, a minor injuries unit, theatres and wards for general surgery, x-ray, physiotherapy, coronary care, day care centre, ophthalmology, audiology, diabetes centre, urology and various other clinics and specialist units. The hospital has approximately 850 beds for inpatient care.

There is a medical school which is run by University of Sheffield, as tenants of Sheffield Teaching Hospitals. Access was not permitted to the medical school. There is security sensitivity due to experiments being carried out on animals.

Jessop Wing is occupied as the maternity unit for Sheffield Teaching Hospitals and these facilities are not replicated at Northern Campus or elsewhere within Sheffield Teaching Hospitals. About 7,000 babies are born here annually. There is a 22 bed labour ward, 3 postnatal wards, 1 antenatal ward, delivery suites, a high dependency unit and intensive care for sick and premature babies including those transferred from other hospitals.

Weston Park Hospital is occupied as a cancer hospital for Sheffield Teaching Hospitals. Weston Park is one of only four dedicated cancer hospitals in the country with an average 60,000 patient visits each year.

The main building range has wards, scanning rooms, operating theatres and treatment areas including radiology, radiotherapy and chemotherapy. There is a designated cancer unit for teenagers aged between 16 to 25 years old.

The service provided is mainly outpatients but there are some 70 beds for inpatient care.

Charles Clifford Dental Hospital is occupied as a dental teaching hospital. Services include dental surgeries for routine check ups, fillings, crowns, x-rays etc.; orthodontics and dental laboratories for the manufacture and repair of plates, dentures etc. Dental laboratory work is carried out in workshops on the 2nd and 3rd floors and includes the use of hot work and flammable liquids.

Their services to the general public are free performed by students under the supervision of experienced dentists, consultants, hygienists etc. The building is adjacent to and communicates with the School of Clinical Dentistry which is owned and operated by University of Sheffield with an annual intake of 80 undergraduate dentists and 30 hygienists

Positive risk features include:

- Non-combustible construction.
- Large site and spread of risk
- Good standards of internal compartmentation.
- Continuous day and night occupation
- Good level of security guarding
- Dedicated Emergency Planning Manager. Emergency planning and business continuity is given a very high priority.
- Good coverage by automatic fire detection with signalling to 24/7 manned security control room
- Good level of fire compartmentation comprising 30/60/120 minute fire barriers
- Procedures in place for hot work, control of contractors electrical maintenance & management of change etc.
- On site Fire Safety Officer

Negative risk features include:

- A significant EML block.

# Construction

The Central Campus site is located close to Sheffield city centre in a commercial retail and residential area with a high proportion of student accommodation. The University of Sheffield is located nearby.

**Royal Hallamshire Hospital.** Royal Hallamshire Hospital dates back to 1958 with newer buildings added during the 1970's. It comprises 3 parallel building ranges separated by 2 service roads (B and C). The ranges are linked at basement level and also at upper floor level by an enclosed bridge to form a single communicating building range, with a high degree of internal fire compartmentation. Central to this range is a 22-storey (including 2 basement levels) 'T' shaped Tower Block. At the base of the tower, are podium levels which are mainly 3 to 5 storeys high and part 1 and part 2 storey. The building areas to the front elevation of the site (outpatient department) and rear elevation of the site (estates workshop, boiler room, plant rooms etc.) are generally 3-storeys in height. Underneath the central building area, there are 2 lower floor levels designated as undercroft (containing building services) and basement (UA).

A total plan area of 22,000m<sup>2</sup> and an approximate total floor area of 144,000m<sup>2</sup> of which the 22-storey Tower Block accounts for an approximate plan area of 4,000 m<sup>2</sup> and approximate total floor area of 83,000 m<sup>2</sup>.

This is a substantially constructed building range. The Tower Block is concrete framed with concrete walls (with about 35% glazing), floors, flat roof and 4 enclosed stairwells. The podium levels and front and rear building sections are all steel or concrete framed with walls predominantly of brick or concrete block, mainly flat concrete roofs and concrete floors and stairwells throughout.

A high degree of internal compartmentation is provided with dividing walls, fire doors, corridors, stairwells, lift shafts etc. generally provided to 1 hour fire resistance, in some areas this is reduced to 1/2 hour fire resistance and in some critical areas, increased to 2 hours fire resistance.

The buildings are maintained on planned programmes in a good state of repair. Detached to the south east elevation (about 10m away) is a multi-storey car park with a plan area of approximately 3,500m<sup>2</sup> and a total floor area of approximately 17,000m<sup>2</sup>. The car park is constructed from concrete.

**Jessop Wing** is a detached building range connected to Royal Hallamshire Hospital via a single overhead enclosed walkway. The building was constructed in 2000/01 and is 4 storey high (part 2 storey high) plus roof plant rooms. The plan area is approximately 5,300m<sup>2</sup> and an approximate total floor area of 18,700m<sup>2</sup>

Wall construction is brick and concrete block, with concrete floors, concrete stairwells and a pitched tile roof on a steel frame.

There is a good degree of internal compartmentation provided by dividing walls, fire doors, corridors, stairwells, lift shafts etc. generally providing ½ hour or 1 hour fire resistance.

At their closest points, the Jessop Wing and Royal Hallamshire Hospital building range are 18m apart but they communicate via a single overhead enclosed walkway of non-combustible construction fitted with 1 hour fire rated doors at each end of the walkway.

The building is maintained on planned programmes in an excellent state of repair.

**Charles Clifford Dental Hospital** is a detached building range which incorporates School of Clinical Dentistry building (owned and occupied by Sheffield University). There is full communication at all floor levels between the 2 buildings with door openings protected by 1 hour fire doors either end of the link corridor.

The Charles Clifford Dental Hospital building was constructed circa 1951-53 and extended in 1966. It has 5 storeys (lower ground, ground and 3 upper floors) plus roof top plant rooms. There is an approximate plan area of 1,100m<sup>2</sup> and an approximate total floor area of 6,000m<sup>2</sup>

The building is concrete framed with walls of brick, concrete floors, concrete stairwells and a flat concrete roof.

A good degree of internal fire compartmentation is provided with dividing walls, fire doors, corridors, stairwells, lift shafts etc. generally providing ½ hour or 1 hour fire resistance.

The building is maintained on planned programmes in a good state of repair.

**Weston Park Hospital** comprises of a main building range constructed around a central courtyard area and 3 smaller detached ranges designated as Broomcross building, Radiotherapy Equipment Maintenance Services building and car park.

The original buildings were constructed in 1948 and extended 1960's, 70's and 90's with the most recent addition being the Broomcross building in 1995.

The main range is predominantly 7 storeys in height (small area part 8) with other parts 2,3,4,& 5 storeys in height. Broomcross building is 4 & 5 storeys, The Radiotherapy Equipment Maintenance Services building (REMS) and car park are both 2 storey.

There is an approximate total plan area of 4,500m<sup>2</sup> and an approximate total floor area of 19,000m<sup>2</sup> of which the main range accounts for approximate plan area of 3,200m<sup>2</sup> and approximate total floor area of 15,000m<sup>2</sup>.

Building frame are a mix of concrete and steel.

Walls construction is mainly concrete panels to the older parts of the building and brick & concrete block to more recent areas. There is a small section (<5%) of composite panelling (unknown insulation material). Roofs are mainly flat concrete roofing with minor amounts (<5%) of glazing and composite panelling (unknown insulation material). Concrete floors and stairwells throughout.

A good degree of internal compartmentation is provided with dividing walls, fire doors, corridors, stairwells, lift shafts etc. generally provided to 1 hour fire resistance but parts to ½ hour and 2 hour FR .

The main range is separated from REMS building by about 4 metres, Broomcross by about 8 metres and the car park by about 14 metres.

The buildings are maintained on planned programmes in a good state of repair.

### **Fire Separation:**

Within each building corridors are provided with automatic closing or self-closing, cross corridor, fire doors (30 and 60 minutes) at intervals.

The ceiling void above each door is fire stopped and in most cases marked with fire rating (small random sample checked during this survey).

Good level of fire compartmentation comprising 30, 60 and 120 minute fire barriers.

All fire doors are inspected and subject to a maintenance agreement.

# OPERATIONS DESCRIPTION

## Occupation:

The site is occupied as an NHS Trust teaching hospital. This campus comprises:

**The Royal Hallamshire Hospital** containing the main outpatients department, a minor injuries unit, theatres and wards for general surgery, x-ray, physiotherapy, coronary care, day care centre, ophthalmology, audiology, diabetes centre, urology and various other clinics and specialist units. The hospital has approximately 850 beds for inpatient care.

There is a medical school which is run by The University of Sheffield, as tenants to Sheffield Teaching Hospitals. The medical school was not surveyed. It should be noted that there is an experimental laboratory area which may involve the use of animals. Additional security measures apply to this area.

The main services block serves a number of the Central Campus buildings and the facilities include estates department workshops (which include joinery, electrical and mechanical workshops), a main boiler house, medical records, some small laboratories and various admin functions.

There is a single (shared) staff and public restaurant.

Patient food is prepared at the Northern campus and delivered to this site.

There is a pay and display multi-storey car park to the south east.

**The Jessop Wing** is the maternity unit for Sheffield Teaching Hospitals. The building comprises a 22 bed labour ward, 3 postnatal wards, 1 antenatal ward, delivery suites, a high dependency unit and intensive care for sick and premature babies including those transferred from other hospitals. Services include a gynaecology outpatient clinic and ACU or assisted conception unit (IVF). Typically 7,000 babies are born here annually.

These facilities are not replicated at Northern Campus or elsewhere within Sheffield Teaching Hospitals.

**Weston Park Hospital** is occupied as a cancer hospital for Sheffield Teaching Hospitals. Weston Park is one of only four dedicated cancer hospitals in the country with an average 60,000 patient visits each year.

The main building range has wards, scanning rooms, operating theatres and treatment areas including radiology, radiotherapy and chemotherapy. There is a designated cancer unit for teenagers aged between 16 to 25 years old.

The service provided is mainly outpatients but there are some 70 beds for inpatient care.

Also within the main range is a Cancer Research Centre operated by Sheffield University (as tenants of Sheffield Teaching Hospitals). They carry out research and clinical trials on an outpatient basis only.

The detached Broomcross building is occupied as offices.

The detached Radiotherapy Equipment Maintenance Services (REMS) building comprises workshops for the servicing and maintenance of cancer treatment equipment and includes some minor elements of hot work and use of flammable liquids.

There is a detached 2-storey car park in addition to further open air parking.

Estates services are provided from the adjacent Royal Hallamshire Hospital.

Weston Park has its own staff & visitor restaurant. Patient food is prepared at the Northern General and delivered to this site.

**Charles Clifford Dental Hospital** is occupied as a dental teaching hospital. Services include dental surgeries for routine check-ups, fillings, crowns, x-rays etc.; orthodontics and dental laboratories for the manufacture and repair of plates, dentures etc. Dental laboratory work is carried out in workshops on the 2nd and 3rd floors and includes the use of hot work and flammable liquids.

Their services to the general public are free performed by students under the supervision of experienced dentists, consultants, hygienists etc. Dental lab work is carried out for own patients and also for other dental practises.

The building is adjacent to and communicates with the School of Clinical Dentistry which is owned and operated by University of Sheffield with an annual intake of 80 undergraduate dentists and 30 hygienists. Students carry out theory work in the School of Clinical Dentistry and practical work in Charles Clifford, hence the communication between the buildings.

Estates services, staff & public restaurants are provided from the adjacent Royal Hallamshire Hospital.

### **Storage:**

Minor storage both central and local with each department with storage of medicines; patient files; linen; building services consumables etc.

No high piled storage.

Flammable liquids & gasses are stored within a correctly designed hazards storage and metal cabinet.

### **Staff:**

Approximately 6,000 employees work across this campus, which is operational 24 / 365 days.

The Charles Clifford Dental Hospital provides outpatient care only. Clinic hours are Monday to Friday, 0830 to 1700 hours plus some evening clinics. The premises are not generally occupied overnight.

## **Business Background**

### **Management Procedures:**

Hot work permits / procedures are required by hospital maintenance staff and contractors for any hot work outside of the designated maintenance workshops. No permit issued for hot work within designated maintenance workshops. Contractors are monitored while on site and 60 minute fire watch completed by hospital maintenance staff. Oxy-acetylene, oxy-propane and grinding carried out.

Approved/vetted contractors with appropriate insurance are used. Risk assessments & method statements are required prior to work commencing. Contractors and visitors to the site undergo site induction on arrival.

There is a planned preventative maintenance system in place. Maintenance is completed by in-house engineering staff and by specialist sub-contractors, in line with manufacturers' recommendations. There are 40 engineers and 20 technicians within the maintenance team. All electricians are trained as competent persons.

Maintenance reports are kept on the 'Docushare' IT system. Faults are flagged until rectified.

All boilers are subject to gas safety & maintenance contracts by specialist contractors.

There is a comprehensive health & safety management system in place which includes fire safety requirements. A full time Fire Safety Manager is employed by the hospital with responsibility for both the Northern and Central campus.

Daily, weekly and monthly audits and inspections are carried out by central management and department management for Health & Safety, Fire Safety and Housekeeping.

Fire risk assessments, in accordance with NHS Fire Code and The Regulatory Reform (Fire Safety) Order 2005, have been completed by an external fire consultant with periodic reviews completed by the hospital fire safety officer.

Waste material is taken to one of many waste collection areas throughout the site. From these smaller collection points the waste is removed each day to the remote main waste storage compound where it is separated into the different waste types, compacted as required and then removed from site each day by a specialist waste contractor.

Cooking facilities cleaning includes cleaning of hood / filters. Cleaning frequency is based on assessment of grease build up with formal inspections by a specialist contractor carried out every 3 months. Deep cleaning is carried out when required by assessment. Extraction hoods, grease filters and grease traps are cleaned every 2 weeks by maintenance staff.

## Utilities:

Electrical supply is provided to site by 3 x 11KV feeds. There are 18 HV substations located around the campus. The Royal Hallamshire has 3 x 1100 kVA emergency generators and a smaller 500kw generator for the High Dependency Unit.

Most transformers appear to be dry cast resin type and are located in dedicated fire rated plant rooms.

There is a 1500 kVA emergency generator for the Jessop Wing (providing 100% requirement). Generator located within an external plant room. Fire valve and automatic fire detection installed.

There is a 320 KVA emergency generator for Weston Park, located in a detached building with fire valve and automatic fire detection.

There is no generator for the Charles Clifford building (no emergency power requirement).

Generators are tested monthly, on load.

Fixed electrical installations are inspected at least every five years by a competent contractor. PAT testing is currently performed annually by a competent contractor.

Thermographic surveys are currently conducted every 2 years with a visual check every 3 months.

Building heating is provided by 4 aging gas fired high pressure steam boilers (Thermex), all located over 2 communicating floors of a single boiler house in the services block. Steam is distributed to heat exchangers in the other main hospital buildings on campus (e.g. Jessop Wing, Weston Park and Charles Clifford).

The boilers can also be run on oil stored in 4 bulk tanks located in an adjacent bunded tank farm. The oil tanks are protected by a manually operated water spray deluge system.

There are plans in place to replace the gas boilers with medium temperature hot water boilers. All boilers and heating systems are subject to service and maintenance contracts and statutory inspection with Bureau Veritas.

There is a single gas supply into the site.

Adequate gas cut off devices are provided which are linked to the fire alarm system.

There are a number of air compressors and vacuum pumps located within plant rooms.

Water is supplied to site from the public water main.

All waste water / effluent from site is connected to the local public sewer main

Maintenance is provided by onsite maintenance team / specialist contractors and is performed in line with manufacturers' guidelines.

# ASSET PROTECTION

## **Fire Protection:**

Emergency response teams on site are focused on the safe evacuation of staff / A response team is in place, responsible for calling the emergency services, ensuring the sprinkler / hydrant pumps are running, ensuring the relevant sprinkler valve is open and remains open (if safe to do so), shutting down plant and isolating gas and electrical supplies in the event of a fire and liaising with the Fire Brigade and other emergency services on arrival.

Extinguishers are distributed throughout the site and all staff have received training, as part of general health and safety induction, in the use of the equipment. All equipment is maintained under contract

Virtually all buildings throughout the Central campus have addressable automatic fire detection and alarm to BS 5839 L1 standard. The systems have been installed by various installers over the years but all are now maintained by Albion Fire and Security Ltd. Signalling is to the 24 hour manned security control room. In the event of single detector activation, hospital personnel investigate but if a second detector or a call point is activated the Brigade are summoned immediately.

Fire detection systems are enhanced by the use of air aspirating detection systems to the main telecoms room and to some operating theatre plant.

There are 8 private fire hydrants around this campus. These checked regularly by the campus engineering department. There are further public hydrants on the surrounding roads.

The Tower Block has wet risers which are serviced and maintained by a specialist contractor.

There is an Ordinary Hazard fire sprinkler system, to BS5306 Part 2, installed in the consultants car park which is located within the basement of the central building range (Tower). This car park represents less than 1% of the overall floor area for the building. Water supply is from the towns main and the installation is regularly test and serviced. The system is wet valve type.

Fire sprinkler protection is not provided in any part of any other building.

Sprinkler water supply flow tests were not performed during this survey.

Smoke ventilation is provided to emergency escape / firefighting stairs.

Fire dampers are fitted to ventilation ductwork where it passes through a fire barrier.

Ansul fire suppression system provided in the Royal Hallamshire and Weston Park restaurant kitchens.

An automatic Argonite gaseous fire suppression system is provided in the HV intake within the boiler house.

The main IT server room in the Royal Hallamshire has an automatic FM200 gaseous fire.

The nearest full time fire brigade (Central, Sheffield) is approximately 2 miles distant with an estimated response time of 5 minutes. There are other full time fire stations within 5 miles with an estimated response time of 10 minutes. The fire brigade carry out regular familiarisation visits and training exercises on this campus.

## **Security:**

The site has open public access during the day.

Within the Royal Hallamshire there are swipe card access controls to certain high risk and staff only areas and also by restricted key locks to areas such as plant rooms, roofs, stores etc. Physical security is otherwise standard door and window locks. Security bars and grilles are fitted to some vulnerable windows.

There is a higher standard of access control in Maternity Unit in the Jessop Wing.

The Charles Clifford building is protected by an intruder alarm which is set each evening. Signalling is to the security control room at Royal Hallamshire who relay messages to duty security guards at this location.

The intruder alarm system in Weston Park is provided in identified higher risk areas within the main range plus throughout Broomcross and REMS buildings which are unoccupied during the night. Signalling is to the security control room based at Royal Hallamshire who relay messages to duty security guards at this location.

The intruder alarm systems are maintained by Albion Detection Systems Ltd.

There is a security control room within Royal Hallamshire responsible for the entire Central campus and this is manned by a security officer 24 / 7 / 365 (they also monitor alarm signals for Northern campus). There are 10 security guards working shifts with a minimum of 2 on duty at a time. These guards carry out patrols of the whole campus and maintain contact with the Royal Hallamshire security control room.

The security officer within the Royal Hallamshire security control room monitors the CCTV system. CCTV coverage includes nearly 300 cameras to internal corridors and external areas via static and also pan, tilt, zoom cameras. A few cameras have motion sensors. CCTV is recorded to hard drive recorders and is kept for a minimum of 30 days.

External lighting is provided around the site on dusk till dawn sensors.

Medical equipment is prominently marked.

External lighting around the site is understood to be adequate.

# EXPOSURES

## **Premises Exposure:**

External areas around the building are generally free of combustible material.

There is a single (shared) staff and public restaurant on the Royal Hallamshire Tower Block 'D' floor which is open 7 days per week from 07:00 to 18:30 hours. The kitchen was completely refurbished in 2014 and has 3 new deep fat frying ranges and deep fat frying is carried out for up to 12 hours a day.

Jessop Wing patient meals are prepared at the Northern campus and delivered to this campus. Also there is a small coffee shop.

Preparation of patient meals is carried out at the Northern Campus and delivered to this campus.

The staff and public restaurant is located in the Royal Hallamshire.

## **Additional perils / Natural hazards:**

Lightning protection is fitted and is maintained by a specialist contractor.

There has been no history of flooding in this area. The campus is located in an elevated part of the city.

Buildings are heated with a low risk of burst pipes due to frost damage.

The site is not located on a flight path. There is no helipad.

No significant damage was observed during the visit from vehicle impact or malicious activity

The site is located in a region of low risk from Earthquake exposure.

Smoking is prohibited throughout all buildings. External smoking shelters are provided but surreptitious smoking by patients and staff does occur from time to time. Incidents are dealt with as they are discovered and staff caught smoking are subject to disciplinary procedures.

Good standard of housekeeping to all internal and external areas surveyed.

Arson exposure risk is considered to be normal. Most of the site is occupied 24/7 with constant. Good level of surveillance from security and hospital staff. Good levels housekeeping regarding external waste. Good levels of physical security with electronic or key locks to staff only areas

## **Business Risk:**

Funding is mainly from contracts with Primary Care Trusts some assistance is available from the Northern General Hospital which is located approximately 3 miles away.

It is understood that there are reciprocal agreements with Rotherham NHS hospitals and Chesterfield NHS hospital.

Private hospitals in the area may be able to provide some assistance.

Laundry services are provided from the Northern Campus / Northern General Hospital Laundry.

There is a multi-storey pay and display car park located in front of the outpatients building.  
There is a small pay and display car park adjacent to the Weston Park Hospital and a small two storey pay and display car park opposite the Charles Clifford Dental Hospital.  
There is good access via multiple entrances on to public roads.  
There are good public transport services to the hospital.

Key utilities for the site include electricity / water / boilers, however back-up systems are provided to help reduce the impact of a loss of these utilities. The most critical scenario would be loss of the main boiler room since this feeds the majority of the site.

IT system servers are located around the Trust and interconnected. The loss of a server location would not have a significant impact. IT disaster recovery plan, robust data replication and back up procedures have been established.

There is a dedicated Emergency Planning Manager who leads an emergency planning team which includes designated lead persons in each of 9 care groups within the hospital. Each group has carried out a business impact analysis to identify the critical services and dependencies with action plans formulated for all generic issues within their area of responsibility.  
Each department has emergency cards which advise what initial actions to follow in the event of any major incident.  
Emergency response control centres have been established on site.  
Incidents considered include fire, flood and loss of power, heating and water. A winter preparedness plan is also in place for severe weather.

Monthly meetings are held with the emergency planning team. All plans are fully reviewed annually and a range of scenarios are completed to test the plans.

## **Loss History:**

Royal Hallamshire.

2014: The heating element from a wall mounted electric radiant heater broke and hot particles landed on a box, caused some charring and burnt itself out. There was not sufficient heat or

smoke to activate the fire detection. Similar electric radiant heaters have been taken out of commission.

2014: The other incident occurred in clinical engineering department when plastic was heated according to manufacturer's instructions but Fahrenheit and Celsius units were mixed up, the plastic overheated and caught fire but only minor fire and smoke damage occurred to the immediate area.

# LOSS ESTIMATES

## DEFINITIONS

**Normal Loss Expectancy (NLE):** Loss that would be anticipated when all existing protection is in service and competent private or public assistance is available.

**Estimated Maximum Loss (EML):** Loss that would be anticipated when primary plant protection is out of service but competent private or public assistance is available.

**Maximum Foreseeable Loss (MFL):** Loss that would be anticipated under the most adverse circumstances, assuming failure of all protection systems and no private or public assistance, with fire spread restricted only by distance separation, lack of continuity of combustibles, or fire wall without openings.

### Notes:

1. The estimates shown below represent the opinion of Willis Limited based on information supplied and should not be regarded as final or recoverable sums.
2. Unless otherwise stated, the operating peril is fire and / or explosion.
3. Stated percentages relate to current schedule values at risk for this location.
4. Where the company is a part of a group, the Business Interruption loss estimates relate only to these premises; they do not take into account upstream or downstream effects on other parts of the group.
5. Loss estimates exclude the perils of Earthquake, Aircraft, Terrorism, Multiple Seat incidents, and widespread flooding on an extraordinary and disastrous scale.
6. Primary Plant Protection means sprinklers, automatic fire alarms, on-site water supplies, fire doors etc.
7. The ABI Recommended Practices Methodology and Assessment Features have been used as the basis for establishing loss estimates.

## SUMS INSURED: ROYAL HALLAMSHIRE HOSPITAL

<b>Material Damage</b>	Buildings	£	581,789,760
	Plant / Machinery/Contents	£	64,815,616
	Stocks	£	6,312,863
	<b>Total</b>	<b>£</b>	<b>652,918,239</b>

## SUMS INSURED: JESSOP WING

<b>Material Damage</b>	Buildings	£	67,756,596
	Plant / Machinery/Contents	£	11,008,013
	Stocks	£	Included in RHH
	<b>Total</b>	<b>£</b>	<b>78,764,609</b>

## SUMS INSURED: CHARLES CLIFFORD DENTAL HOSPITAL

<b>Material Damage</b>	Buildings	£	27,605,781
	Plant / Machinery/Contents	£	6,601,842
	Stocks	£	303,385
	<b>Total</b>	<b>£</b>	<b>34,511,008</b>

## SUMS INSURED: WESTON PARK HOSPITAL

<b>Material Damage</b>	Buildings	£	67,428,391
	Plant / Machinery/Contents	£	17,601,908
	Stocks	£	Included in RHH
	<b>Total</b>	<b>£</b>	<b>85,030,299</b>

# LOSS ESTIMATES NOTES

## ROYAL HALLAMSHIRE HOSPITAL

Excluded from the EML block is the Jessop Wing which is 18m away from the north west elevation of Royal Hallamshire. Both buildings do communicate via a single overhead enclosed walkway of non-combustible construction fitted with 1 hour FR doors at each end of the walkway. The walkway is devoid of storage.

Given the size of the insured building and anticipated speed of response to a fire, fire spread beyond the insured and third party buildings detailed above is not deemed likely.

100% of the sum insured for Royal Hallamshire is in the EML block along with the values of other campus buildings within the EML block.

## ESTIMATED MAXIMUM LOSS

Area Involved	P.D.	B.I.
Tower Block	20% Plant / Machinery/Contents, 20% Stock, 15% Buildings	24 months

## SCENARIO DETAILS

The EML estimate is based on a fire during a period when primary plant protection is out of service but competent private or public assistance is available.

An electrical fire starts within the Tower Block. The fire is detected by staff and visitors and the alarm raised. The fire brigade respond quickly and initially concentrate on building evacuation.

Building fire damage (within the Tower Block) is based upon 25% of floors above fire brigade reach (25% x 13 floors) plus 10% water damage to 9 floors below = 4.15 / 22 floors which represents about 19% of the Tower Block or 11% of total building floor area. Contents damage is based upon 100% of fire damaged floors plus 20% on water damaged floors = 5.05 / 22 floors which represents about 13% of total floor area, rounded to 20% on assumption of higher concentration of contents values within fire / water damaged areas and water damage also to some podium levels around the base of the Tower.

Other insured and 3rd party buildings within the EML block are not expected to receive anything other than minor external damage.

In respect of BI, the damage will restrict access to the whole of the Tower Block and will have a significant impact on the availability of other facilities at podium levels. A period of up to 24 months is estimated for full re-instatement but access and availability to other parts of fire and water damaged areas anticipated to return in stages from 1 month to 24 months.

## JESSOP WING

The EML block comprises Jessop Wing and a number of Sheffield Teaching Hospital and 3rd party buildings to the south west and north west elevations. Jessop Wing is of light hazard occupancy and non combustible construction.

Excluded from the EML block is Royal Hallamshire Hospital which is 18m from the south east elevation of Jessop Wing. The Jessop Wing and Royal Hallamshire Hospital communicate via a single overhead enclosed walkway of non combustible construction fitted with 1 hour FR doors at each end of the walkway. The walkway is devoid of storage.

Given the size of the insured building and anticipated speed of response to a fire, fire spread beyond the insured and third party buildings detailed above is not deemed likely.

100% of the sum insured (for Jessop Wing) is in the EML block along with the values of other Sheffield Teaching Hospital buildings within the EML block.

## ESTIMATED MAXIMUM LOSS

Area Involved	P.D.	B.I.
Jessop Wing	70% Plant / Machinery/Contents, 10% Stock, 50% Buildings	6-9 months

## SCENARIO DETAILS

The EML estimate is based on a fire during a period when primary plant protection is out of service but competent private or public assistance is available.

An electrical fire starts on the second floor of the building. The fire is eventually detected by staff and visitors and the alarm raised. The fire brigade respond quickly and initially concentrate on building evacuation.

Extensive fire damage expected to the top 2 floors of the building with extensive water damage to the 2 lower floors. A greater percentage of damage to contents is anticipated but a lesser value for stock on the basis that the stock sum insured provided floats across 3 buildings.

In respect of BI, the damage will put the whole building out of commission for a period of 6 - 9 months.

## CHARLES CLIFFORD DENTAL HOSPITAL

The EML block comprises Charles Clifford Dental Hospital and a number of Sheffield Teaching Hospital and 3rd party buildings to north, east and south elevations. Charles Clifford Dental Hospital is of ordinary hazard occupancy and, for the purposes of the EML Block, fire resisting construction. The EML block extends to include the following buildings:

- (a) Broomcross Building, part of Weston Park Hospital - office occupation.
- (b) Clarence Crescent - office occupation
- (c) School of Clinical Dentistry, Sheffield University
- (d) A 3rd party office building (unknown occupant).

Given the size of the insured building and anticipated speed of response to a fire, fire spread beyond the insured and third party buildings detailed above is not deemed likely.

## ESTIMATED MAXIMUM LOSS

Area Involved	P.D.	B.I.
Charles Clifford	70% Plant / Machinery/Contents, 100% Stock, 45% Buildings	6-9 months

## SCENARIO DETAILS

The EML estimate is based on a fire during a period when primary plant protection is out of service but competent private or public assistance is available.

An electrical fire starts on the second floor of the building. The fire is eventually detected by staff and visitors and the alarm raised. The fire brigade respond quickly and initially concentrate on building evacuation.

Extensive fire damage expected to the top 2 floors of the building with extensive water damage to the 3 lower floors. A greater percentage of damage to contents and stock is anticipated.

In respect of BI, the damage will put the whole building out of commission for a period of 6 - 9 months.

## WESTON PARK HOSPITAL

The EML block comprises the main range of Weston Park Hospital plus the 3 detached building ranges making up this building.

The main range is the target block and the EML block extends to include the following buildings:

- (a) REMS building
- (b) Broomcross building

Given the size of the main range and anticipated speed of response to a fire, fire spread beyond the main range and further Weston Park is not deemed likely.

100% of the sum insured (for WPH) is in the EML block.

## ESTIMATED MAXIMUM LOSS

Area Involved	P.D.	B.I.
Weston Park Hospital	50% Plant / Machinery/Contents, 15% Stock, 40% Buildings	6-9 months

## SCENARIO DETAILS

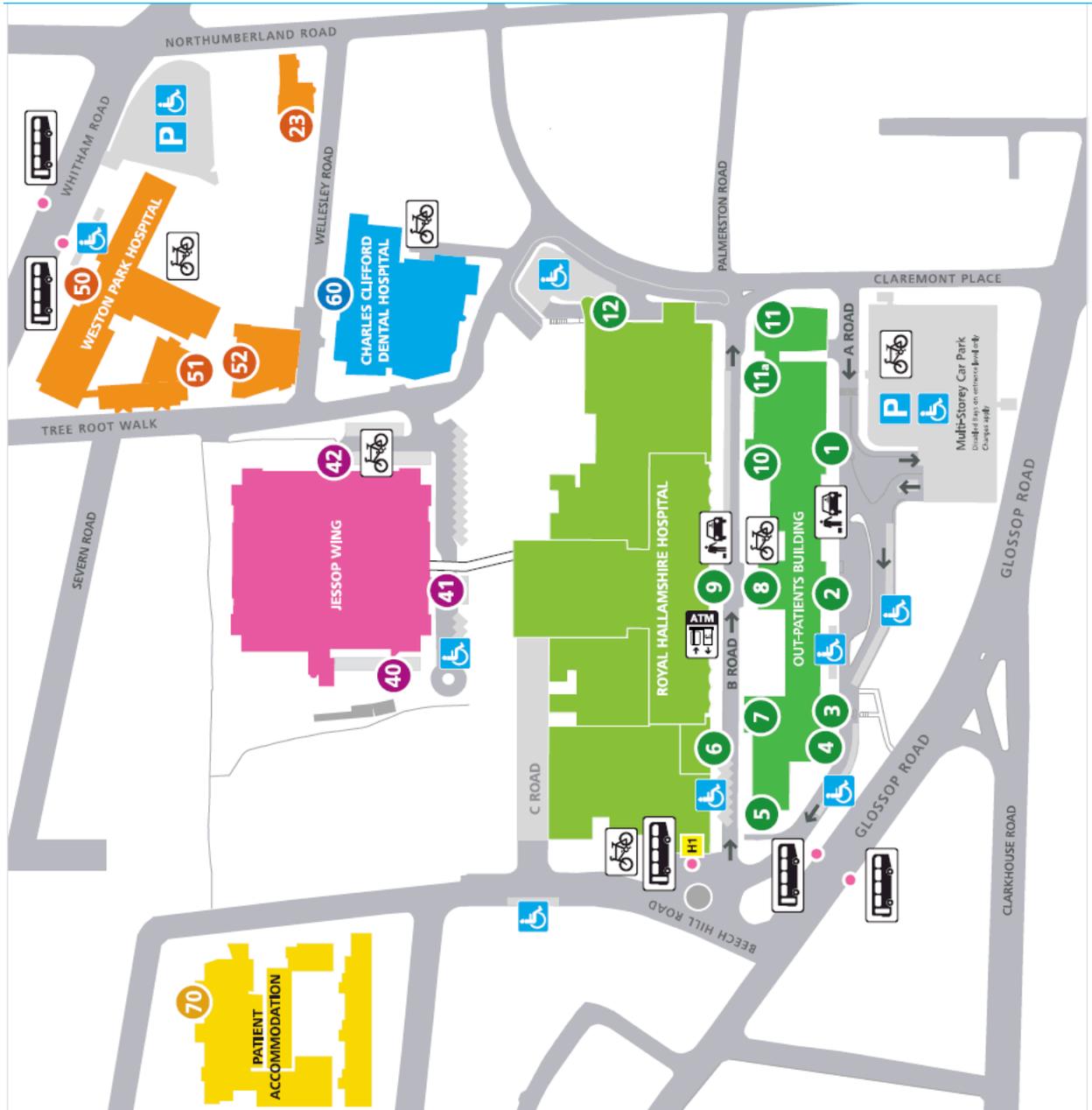
The EML estimate is based on a fire during a period when primary plant protection is out of service but competent private or public assistance is available.

An electrical fire starts on the 5<sup>th</sup> floor of the building. The fire is eventually detected by staff and visitors and the alarm raised. The fire brigade respond quickly and initially concentrate on building evacuation.

Extensive fire damage expected to the 5th & 6th floors of the building with extensive water damage to the 5/6 lower floors. A greater percentage of damage to contents is anticipated but a lesser value for stock on the basis that the stock sum insured provided floats across 3 buildings.

**Ian Marshall**  
**Risk Management Executive**  
**Willis Towers Watson**

# SITE PLAN



# PHOTOGRAPHS



Royal Hallamshire Tower



Weston Park (Front Entrance)



Jessop Wing



Charles Clifford Dental Hospital (Front)

