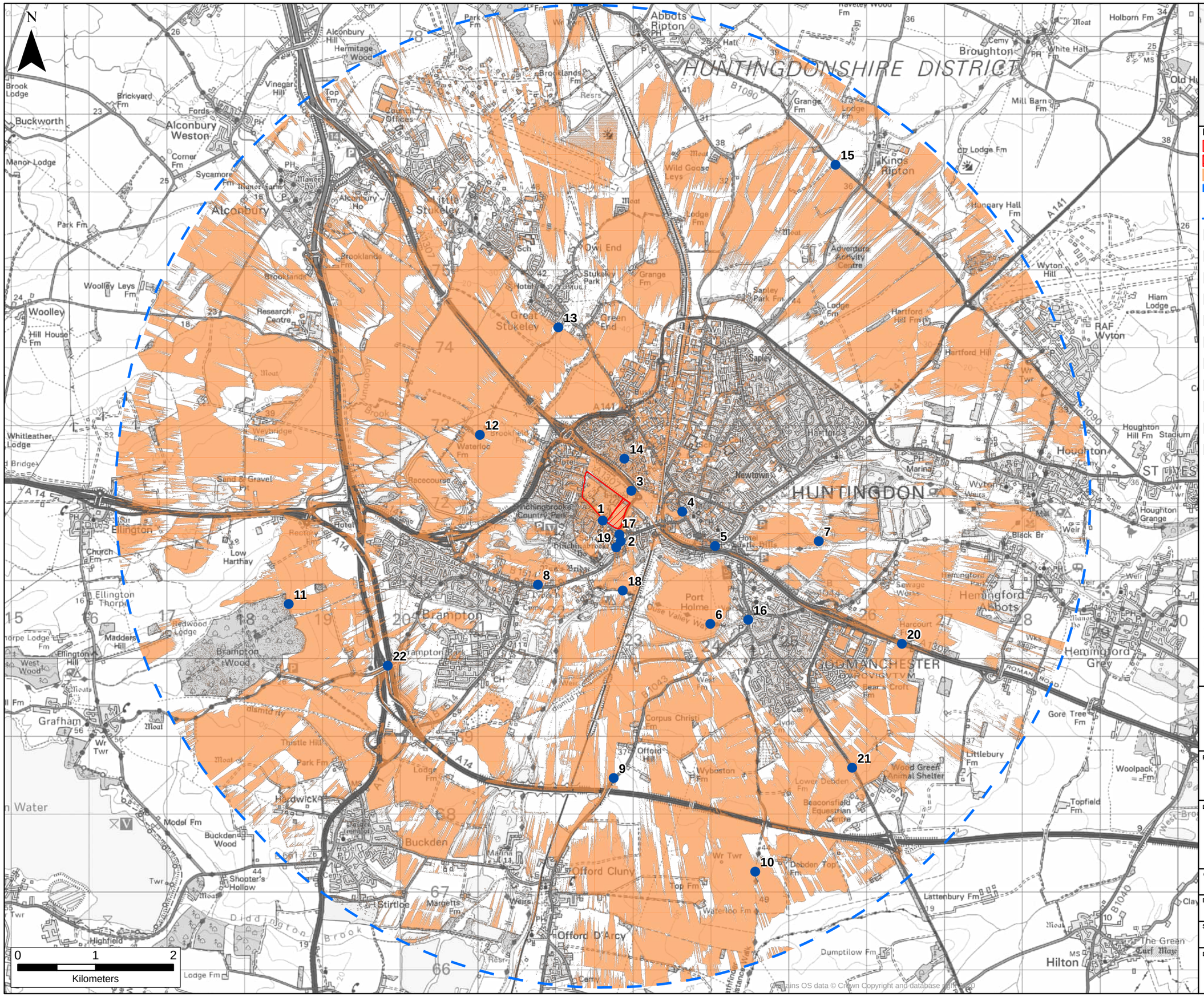
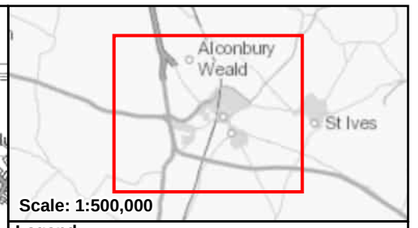




Scale: 1:500,000

Legend

- Red Line Boundary
- Constabulary Land
- Development Visibility
- 6km study area
- Viewpoints

Location
1-Hinchingbrooke Park Road, Hinchingbrooke
2-Hinchingbrooke School Parking, Hinchingbrooke Park Road
3-PRoW, Views Common, Hinchingbrooke, Huntingdon
4-St John's Street, Newtown, Huntingdon,
5-Huntingdon Castle, Newtown, Huntingdon,
6-Portholme Meadow, Roman Town, Godmanchester, Ouse Valley Way
7-Westside Common, Roman Town, Godmanchester, Ouse Valley Way
8-Sewell's Field, Brampton, Huntingdon Road
9-Offord Road, Offord Cluny, Huntingdonshire,
10-Roman Way, Godmanchester, Huntingdonshire, Pathfinder LDF
11-Brampton Woods, Cross Ride, Brampton,
12-Bridleway 230/26, Waterloo Farm, The Stukeleys, Great Stukeley
13-Bridleway 230/26, Green End, The Stukeleys, Great Stukeley
14-Derwent Close, Huntingdon
15-Sawtry Way, Kings Ripton, Huntingdonshire, Pathfinder LDF
16-Causeway, Roman Town, Godmanchester
17-Views Common Road, Northern aspect of HH with Gatehouse
18-Ouse Valley Way, west of railway looking towards HH
19-Pepys Walk, Hinchingbrooke House Grounds
20-A1307 westbound, Harcourt Farm,
21-A1198 in the vicinity of Wood Green Animal Shelter
22-A1 / A14 Overpass, Brampton Road

ZTV Notes:

The purpose of the Zone of Theoretical Visibility (ZTV) mapping is to inform the field survey work for visual assessment. The ZTV identifies land that, theoretically, is visually connected with the proposal on the basis of a terrain model and the parameters set out below. The extent and nature of specific views towards the Proposed Scheme is verified through field survey work.

- The ZTV is produced using specialist software package ArcGIS Spatial Analysis tool.
- The ZTV is produced by calculating surface locations visible to target points.
- The observer eye height above the ground level is set at 1.6m.
- For this ZTV analysis 7 points representing the location of the Hospital development between 29.6m and 76.8m height were selected and analysed.
- The ZTV accounts for ground topography on the basis of a model made from 1m LiDAR Digital Surface Model (DSM) height data in the form of a 3D Raster. This height data was supplied by Defra.
- The ZTV accounts for features on the terrain such as buildings, woodlands, trees or infrastructure and will return visibility of roof tops and tree tops in some areas.
- The ZTV accounts for the earth curvature.
- The ZTV portrays the visibility of the Proposed Scheme on the basis of if any target point is visible on the Digital Surface Model.

CONTAINS OS DATA © CROWN COPYRIGHT [AND DATABASE RIGHT] [2025] AC0000808122

PROJECT TITLE:

HINCHINGBROOKE HOSPITAL NHP - ENABLING WORKS

DRAWING TITLE:

FIGURE 13.3:
ZONE OF THEORETICAL VISIBILITY WITHIN 6KM WITH AGREED VIEWPOINT LOCATIONS

CONFIDENTIALITY: PUBLIC

DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
SB	SL		

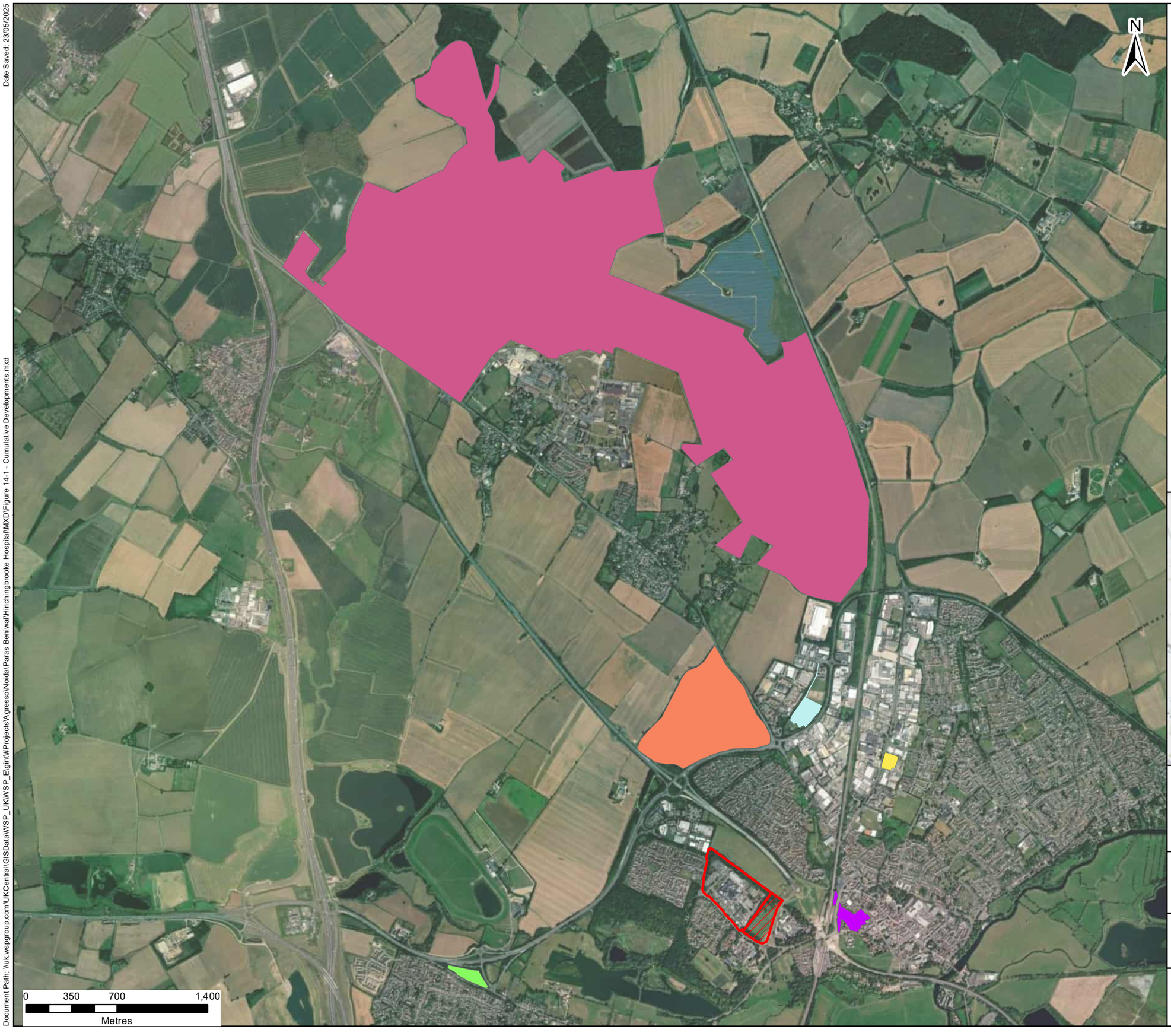
SCALE @ A3 SIZE:	DATE:	REVISION:
1:45,000	09/06/2025	P00

DRAWING NUMBER:

UK0028795.1537-133

Date Saved: 23/05/2025

Document Path: \\uk.wspgroup.com\UKCentral\GISData\WSP_UK\WSP_E\gint#Projects\Agresso\Noida\Paras Beniwal\Hinchingbrooke Hospital\MXD\Figure 14-1 - Cumulative Developments.mxd

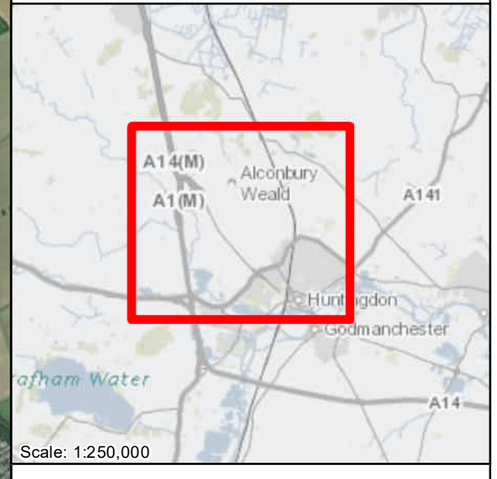


Key

- Red Line Boundary
- Constabulary Land

Cumulative Developments

- 18/01918/OUT
- 19/00038/OUT
- 20/00881/FUL
- 20/02613/FUL
- 22/00539/FUL
- 1201158OUT



Project:

Hinchingbrooke Hospital NHP

Title:

Figure 14-1
Cumulative Developments

Date:	23 May 2025			Scale:	28,000 @ A3
Drawn:	PB	Checked:	AH	Approved:	SJ
Drawing Number:	UK0028795.1537-014				

Appendix B

MA&D SCREENING

CONFIDENTIAL

MAJOR ACCIDENTS AND DISASTERS

INTRODUCTION

This appendix considers the vulnerability of the Proposed Development to major accidents and disasters (MA&D) during its construction, operation and maintenance, and decommissioning, caused by natural hazards or manmade hazards (including operational failure), and any potential significant effects. It also considers impacts to receptors arising from MA&D affecting the Proposed Development (which is described in **Chapter 2: Description of the Site and the Proposed Development** of this EIA Scoping Report).

This appendix also sets out the proposed methodology for the MA&D assessment and identifies those MA&D categories and types that can be scoped out of the assessment. Where necessary, further assessment will be presented in the ES. For the ES, the vulnerability of the Proposed Development to an MA&D event during decommissioning is anticipated to be no worse than that for the construction phase following the implementation of risk management plans for decommissioning. Construction and decommissioning are therefore considered together.

Based on professional judgement, MA&D are events or situations that have the potential to affect the Proposed Development and to go on to cause immediate or delayed serious damage to one or more of the following: human health; welfare; cultural heritage; and the environment.
The list of MA&D categories and types to which the Proposed Development may be vulnerable during construction and operation and maintenance phases are listed in **Table 1**.

Table 1 – MA&D Categories and Types

Category	Type
Natural	Geophysical
	Hydrological
	Climatological and Meteorological
	Biological
Technological or Manmade Hazards	Societal
	Industrial and Urban Accidents
	Transport Accidents
	Pollution Accidents
	Utility Failures
	Malicious Attacks
	Engineering Accidents and Failures

This appendix should be read in conjunction with the environmental aspect chapters (**Chapter 4: Air Quality to Chapter 13: Landscape and Visual**) to provide a broader environmental context of the risks associated with these MA&D events/situations. These chapters also include examples of the measures that may be used to prevent or mitigate significant effects and details of the preparedness for, and proposed response to emergencies. Measures will be identified further in the ES.
The definitions of key terms used in this appendix are given in **Table 2**. These definitions have been developed by reference to the definitions used in EU and UK legislation and guidance relevant to MA&D, as well as professional judgement in the context of the Proposed Development.

Table 2 – MA&D Key Terms and Definitions

Term	Definition
(Major) Accident	In the context of the Proposed Development, an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or their contractor(s) to respond. Serious damage includes the loss of life or permanent injury, and/or permanent or long-lasting damage to a receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will consider the extent, severity and duration of harm and the sensitivity of the receptor.
ALARP	"ALARP" stands for "as low as reasonably practicable". Reasonably practicable involves weighing a risk against the trouble, time and money needed to control it. Thus, ALARP describes the level to which the Health & Safety Executive (HSE) expect to see workplace risks controlled.
Adaptive Capacity	The capacity of receptors to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.
Consultation Zone	The Office for Nuclear Regulation (ONR) and the HSE set consultation distances around nuclear installations, major hazard sites and major accident hazard pipelines after assessing the risks and likely effects of major accidents at the nuclear installation/major hazard site/pipeline. The area enclosed within the consultation distance is referred to as the Consultation Zone (CZ). The local planning authority is notified of this consultation distance and has a statutory duty to consult the ONR/HSE on certain proposed developments within that CZ.
Disaster	In the context of the Proposed Development, a naturally occurring phenomenon such as an extreme weather event (for example storm, flood, temperature) or ground-related hazard events (for example subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a (major) accident, as defined above.
External Influencing Factor	A factor that occurs beyond the Site that may present a risk to the Proposed Development, e.g. if an external major event occurred (e.g. fire or a Control of Major Accident Hazards (COMAH) site major accident) it would increase the risk of serious damage to a receptor associated with the Proposed Development.
Hazard	Anything with the potential to cause harm, including ill-health and injury, damage to property or the environment; or a combination of these.
Internal Influencing Factor	A factor which occurs within the Site that may present a risk to the Proposed Development.
Magnitude of Impact	The magnitude of an impact is typically defined by the following factors: Extent – the area over which an effect occurs; Duration – the time for which the effect occurs; Frequency – how often the effect occurs; and Severity – the degree of change relative to existing conditions.

Term	Definition
MA&D Group	A MA&D which can be grouped as either a natural hazard (disaster) or technological or manmade hazard (major accident).
MA&D Category	A set of values used to categorise events within a related parent MA&D group.
MA&D Type	A set of values used to sub-categorise events within a MA&D category.
Risk	The likelihood of an impact occurring, combined with effect or consequence(s) of the impact on a receptor if it does occur.
Risk Event	An identified, unplanned event, which is considered relevant to the Proposed Development and has the potential to be a MA&D subject to assessment of its potential to result in a significant adverse effect on a receptor.
Sensitivity	The sensitivity of a receptor is a function of its value, and capacity to accommodate change reflecting its ability to recover if it is affected. It is typically defined by the following factors: Adaptability – the degree to which a receptor can avoid, adapt to or recover from an effect. Tolerance – the ability of a receptor to accommodate temporary or permanent change. Recoverability – the temporal scale over and extent to which a receptor will recover following an effect.
Vulnerability	In the context of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (Ref. 1.1) [1](on the assessment of the effects of certain public and private projects on the environment) the term refers to the 'exposure and resilience' of the Proposed Development to the risk of a MA&D. Vulnerability is influenced by sensitivity, adaptive capacity and magnitude of impact.

GUIDANCE

The MA&D assessment will be undertaken accordance with the following good practice guidance documents:

- IEMA: Major Accidents and Disasters in EIA: A Primer 2020[2];

[1] HM Government. (2017). 'The Town and Country Planning (Environmental Impact Assessment) Regulations 2017'. Available at: https://www.legislation.gov.uk/uksi/2017/571/contents
[2] Institute of Environmental Management & Assessment. (2020). 'Major Accidents and Disasters in EIA: A Primer'. Available at: https://www.iema.net/resources/blog/2020/09/23/iema-major-accidents-and-disasters-in-eia-primer

- ‘Green Leaves III’ Guidelines for Environmental Risk Assessment and Management 2011[3];
- Guideline – Environmental Risk Tolerability for COMAH Establishments 2013[4]; and
- ISO 31000:2018 Risk Management – Guidelines 2018[5].

CONSULTATION

Consultation has not been undertaken to inform this appendix for MA&D as no external influencing factors which could have a significant impact on the Proposed Development have been identified.

STUDY AREA

Based on professional judgement, the following factors, and associated distances from the Site, were adopted for setting the Study Area to capture internal and external influencing factors that may have high adverse consequences on the Proposed Development:

Manmade features:

- Airports and airfields within 13km (the general safeguarding zone);
- Control of Major Accident Hazard facilities within 5km;
- Major accident hazard pipelines within 1km;
- Nuclear installations within 3km (distance to The Land Use Planning Outer Consultation Zone);
- Fuel retail sites (including Liquified Natural Gas, Liquified Petroleum Gas) within 1km;
- Rail infrastructure within 500m; and
- Transmission (gas, electrical, oil/fuels) crossing the Site.

Natural features with the potential to create risks within:

- 3km (chiefly hydrological and geological, for example dam failure and seismic activity respectively); and
- 1km (chiefly hydrological and geological, for example flood risk and unstable ground conditions respectively).

1.1. BASELINE CONDITIONS AND FUTURE BASELINE

1.1.1. DATA SOURCES

The baseline conditions for MA&D described in this section has been informed by the following data sources:

[3] Department for Environment, Food & Rural Affairs. (2011). ‘Guidelines for Environmental Risk Assessment Green Leaves III’. Available at: https://www.gov.uk/government/publications/guidelines-for-environmental-risk-assessment-and-management-green-leaves-iii

[4] Chemical and Downstream Oil Industries Forum. (2013). ‘Guideline - Environmental Risk Tolerability for COMAH Establishments’. Available at: https://www.sepa.org.uk/media/219154/cdoif_guideline__environmental_risk_assessment_v2.pdf

[5] International Standards Organisation. (2018). ‘ISO 31000:2018 Risk management – Guidelines’. Available at: https://www.iso.org/standard/65694.html

- National Risk Register[6];
- British Geological Survey (BGS) GeoIndex Onshore[7];
- Tsunamis Hazard Map[8];
- The International Disaster Database[9];
- Health and Safety Executive's (HSE) Planning Advice Web App[10];
- HSE's COMAH 2015 Public Information Search[11];
- Google aerial and street view maps[12] and
- Environmental aspect chapters (**Chapter 4: Air Quality to Chapter 14: Landscape and Visual**).

A summary of the baseline conditions is presented below.

1.1.2. EXISTING BASELINE

The baseline relevant to MA&D comprises:

- Features external to the Proposed Development that contribute a potential source of hazard to the Proposed Development;
- Sensitive environmental receptors at risk of significant effect; and
- Current (without the Proposed Development) MA&D risks for the existing locality.

Baseline conditions for MA&D are presented in **Table 3**.

1.1.3. FUTURE BASELINE

In the future baseline and in the absence of the Proposed Development, it is considered that the current land use within the Study Area would remain the same.

[6] HM Government. (2025). 'National Risk Register 2025 edition'. Available at: National Risk Register - 2025 edition
[7] British Geological Survey. (2020). 'Geo Index Onshore'. Available at: http://mapapps2.bgs.ac.uk/geoindex/home.html
[8] Prevention Web Europe. (2005). 'Tsunamis Hazard Map'. Available at: https://www.preventionweb.net/english/professional/maps/v.php?id=3831
[9] Centre for Research on the Epidemiology of Disasters. (2009). 'The International Disaster Database'. Available at: https://www.emdat.be/

[10] Health and Safety Executive. (2024). 'Planning Advice Web App'. Available at: https://pa.hsl.gov.uk/

[11] Health and Safety Executive. (2024). 'COMAH 2015 Public Information Search'. Available at: https://notifications.hse.gov.uk/COMAH2015/Search.aspx
[12] Google. (2024). Aerial and street view maps covering Study Area. Available at: https://www.google.com/maps/

1.2. SENSITIVE RECEPTORS

Schedule 4 of the EIA Regulations[13] sets out the information that should be included in an ES where that information is relevant to the specific characteristics of the development. As such, this appendix has considered the following receptors:

- Members of the public and local communities;
- Infrastructure and the built environment;
- The natural environment, including ecosystems, land and soil quality, air quality, surface and groundwater resources and landscape;
- The historic environment, including archaeology and built heritage; and
- The interaction between the factors above.

[13] HM Government. (2017). 'The Town and Country Planning (Environmental Impact Assessment) Regulations 2017'. Available at: https://www.legislation.gov.uk/uksi/2017/571/contents

1.3. DESCRIPTION OF POTENTIAL VULNERABILITY TO MAJOR ACCIDENT AND DISASTER RISKS

There is no published guidance for the application of the legal requirements to the assessment of MA&D. However, selected relevant guidance for risk assessment methodologies is summarised in **Section 1.2.**In addition to the information sources used to collate baseline information (detailed in **Section 1.1**), the following have been consulted to support the identification of potential MA&D:

- The Cabinet Office National Risk Register (2025 Edition)[6]. This document is the unclassified version of the National Risk Register, and it identifies the main types of civil emergencies that could affect the UK in the next five years. It is recognised, however, that this document does not provide an all-encompassing list of all potential accidents and disasters and its timescales are short term.
- The International Federation of Red Cross & Red Crescent Societies Early Warning, Early Action[14]. This guidance looks to other countries including those in warmer climates, thereby identifying risks that the UK may encounter in the future in light of climate change and global warming.
- The International Disaster Database[8] contains data covering over 22,000 mass disasters in the world since 1900 to the present day and aims to "rationalise decision making for disaster preparedness, as well as provide an objective base for vulnerability assessment and priority setting".

SCOPING PROCESS FOR MAJOR ACCIDENT AND DISASTER RISKS

Likelihood and Consequence Events

Low likelihood and low consequence events are scoped out as these are unlikely to result in significant adverse effects; because they do not fall into the definition of a MA&D (see **Table 2**).

High likelihood and low consequence events are also scoped out, as they will not lead to significant adverse effects.

High likelihood and high consequence events are also scoped out, as it is assumed that existing legislation and regulatory controls would not permit the Proposed Development to be progressed under these circumstances.

The remaining events, low likelihood and high consequence events, are the subject of the MA&D assessment. Using professional judgement, the assessment identifies relevant events and determines whether a significant environmental effect is possible.

[14] International Federation of Red Cross and Red Crescent Societies. (2008). 'What is a Disaster?' Available at: http://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/

Occupational Health and Safety

In accordance with emerging EIA practice, occupational health and safety (H&S) is scoped out of this topic. Other health issues are covered in relevant environmental aspect sections of **Chapter 4: Air Quality and Chapter 10: Noise and Vibration**. As 'in combination' impacts, human health is also considered within **Chapter 14: Cumulative Effects**, not least as it is covered by detailed H&S legislation: The Management of Health and Safety at Work Regulations 1999[15] and The Workplace (Health, Safety and Welfare) Regulations 1992[16].

IMPACTS SCOPED IN OR OUT OF FURTHER ASSESSMENT

A long list of all possible MA&D groups, categories and types has been prepared in **Table 3** below. This is reviewed to rule out any potential MA&D that are considered highly unlikely to occur due to the location of the Proposed Development, based on baseline information and information provided for the technical topics relevant to MA&D. A determination on whether the MA&D type is to be scoped in or out of the MA&D assessment is provided, in accordance with the phase of the Proposed Development.

Those MA&D types that cannot be screened out from the three-component process will require further detailed assessment in the ES.

A review of the MA&D event groups, categories and types identified in the Study Area, has been undertaken to inform the scoping process, which is reported in **Table 3**. This table shows the potential vulnerability of the Proposed Development to the risk of a MA&D event at the type level. The ES will provide greater assessment and justification for the topic areas scoped in and for those that are scoped out no further assessment is considered necessary in the EIA.

[15] HM Government. (1999). 'The Management of Health and Safety at Work Regulations 1999'. Available at: https://www.legislation.gov.uk/uksi/1999/3242/contents/made
[16] HM Government. (1992). 'The Workplace (Health, Safety and Welfare) Regulations 1992'. Available at: https://www.legislation.gov.uk/uksi/1992/3004/contents/made

Table 3 - Elements Scoped In or Out of Further Assessment

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
Natural Hazards	Geophysical	Earthquakes	Earthquakes do not occur in Britain of a sufficient intensity owing to the motion of the Earth's tectonic plates causing regional compression. In addition, uplift from the melting of the ice sheets that covered many parts of Britain thousands of years ago can also cause movement. The BGS acknowledges that on average, a magnitude 4 earthquake happens in Britain roughly every two years and a magnitude 5 earthquake occurs around every 10 to 20 years. As such the Cabinet Office National Risk Register of Civil Emergencies states that "Earthquakes in the UK are moderately frequent but rarely result in large amounts of damage. An earthquake of sufficient intensity (determined on the basis of the earthquake's local effect on people and the environment) to inflict severe damage is unlikely". The Proposed Development is not in or close to an active area. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Geophysical	Volcanic Activity	The Proposed Development is not in an active area and it is highly unlikely that an ash cloud could significantly impact on any aspect of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Geophysical	Landslides	The Site is underlain by the superficial deposits of Diamicton (Cretaceous and Jurassic rock fragments; with dark or light grey / yellowish, orange or reddish brown slightly silty sandy fine to coarse angular to subrounded gravel of granite, flint, limestone, sandstone, soft to firm brown or dark greenish grey slightly sandy silty gravelly clay, clinker and asphalt, which overlies the Oxford clay formation (mudstone). According to the BGS GeoIndex Onshore map viewer there are no records of landslides within the Study Area.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			The Proposed Development's topography is generally flat and the Proposed Development does not involve the formation of deep cuts/high embankments. In designing the Proposed Development to applicable standards, resources and receptors would not be put at a greater risk as a consequence of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	
Natural Hazards	Geophysical	Sinkholes	The bedrock geology that underlies the Proposed Development includes superficial deposits of Diamicton (Cretaceous and Jurassic rock fragments; with dark or light grey / yellowish, orange or reddish brown slightly silty sandy fine to coarse angular to subrounded gravel of granite, flint, limestone, sandstone, soft to firm brown or dark greenish grey slightly sandy silty gravelly clay, clinker and asphalt, which overlies the Oxford clay formation (mudstone). Therefore, the geology is unlikely to be prone to the natural formation of sinkholes. There are no examples of naturally occurring sinkholes in the locality of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Geophysical	Tsunamis	The Proposed Development is located inland, outside a tsunamis risk zone. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Hydrological	Coastal Flooding	The Proposed Development is located inland, outside a coastal flooding risk zone. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Hydrological	Fluvial Flooding	The Environment Agency Flood Map for Planning (Rivers and Sea) indicates that the majority of the Proposed Development is located in the low-risk Flood Zone 1 where the risk of flooding from fluvial sources is less than 1 in 1,000 (0.1%) in any year. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Hydrological	Pluvial Flooding	The Environment Agency Flood Map for Planning indicates that the Proposed Development is in an area where the risk of pluvial flooding	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			is generally low, between 0.1% and 1% chance of a flood each year. There are small areas of the Proposed Development which are indicated as having a medium (between 1% and 3.3% chance of a flood each year) or high (more than 3.3% chance of a flood each year) chance of pluvial flooding. The risk of pluvial flooding affecting the Proposed Development during operation will be mitigated through 'Sustainable Drainage Strategy and Design (SuDS)' which would be implemented by the appointed contractor. This will aim to manage surface water runoff in line with the drainage hierarchy. Therefore, this MA&D event type has been scoped out from further assessment.	
Natural Hazards	Hydrological	Groundwater Flooding	The Environment Agency's Flood Map for Planning indicates that flooding from groundwater is unlikely. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Hydrological	Avalanches	Not considered relevant given the geographical location of the Proposed Development. The Proposed Development's topography is relatively flat and therefore an avalanche will not occur. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Climatological and Meteorological	Cyclones, hurricanes, typhoons, storms and gales	Cyclones, hurricanes and typhoons do not occur in the UK. The winter of 2015/2016 was the second wettest winter on record and a series of storms (including ‘Desmond’ and ‘Eva’) resulted in heavy and sustained rainfall. 17,600 UK properties were flooded and several bridges collapsed, disrupting access to and from local communities. In January 2024, Storm Henck, and in December 2024, Storm Darragh brought strong winds and heavy rain to Cambrdigeshire causing flooding. In the event of a storm during the construction phase, works would be temporarily suspended, and equipment secured. The risks associated with adverse weather conditions will be considered in the CDM Risk Register.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			During the operational phase, storms and gales could result in damage to buildings. Their design takes into account environmental conditions including exposure to UK weather conditions. The risk is not significantly different to other similar buildings in the locality. It is therefore considered that this MA&D event type can be scoped out from further assessment.	
Natural Hazards	Climatological and Meteorological	Thunderstorms	This type of event could result in lightning strikes to temporary elevated structures during construction (e.g. tower cranes) however, the risk is no different to other construction projects in the locality. In addition, the risks associated with adverse weather conditions will be considered in the CDM Risk Register. It is therefore considered that this MA&D event type can be scoped out from further assessment.	No
Natural Hazards	Climatological and Meteorological	Wave surges	The Proposed Development is located sufficiently inland and therefore is not subject to wave surges. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Climatological and Meteorological	Extreme temperatures: Heatwaves Low (sub-zero) temperatures and heavy snow	This type of event could give rise to changes in climatic conditions, with building infrastructure exposed to greater heat intensity and exposure to sunlight. Heavy snow could cause workers and members if the public to be trapped in the hospital. In August 1990, the UK experienced heatwave conditions with temperatures reaching what was then a record 37.1°C in Cheltenham, England. In August 2003 a UK heatwave lasted 10 days and resulted in over 2,000 deaths. Temperatures reached what was then a record 38.5°C in Faversham, England and 33°C in Anglesey, Wales. In July 2022 40.3°C was recorded at Coningsby (Lincolnshire), setting a new UK and England temperature record. High temperature records are now being broken with increasing frequency. The most widespread and prolonged low temperatures in recent years occurred in December 2022 causing disruption to power supplies and transport. The UK experienced a prolonged spell of low	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			temperatures accompanied by snowfalls as an Arctic Maritime airmass brought hard frosts, with freezing daytime temperatures and widespread lying snow (although generally not deep). Daily minimum temperatures fell widely to between -5°C and -10°C across the UK on several nights, with hard frosts even in cities and coastal areas and some locations recorded temperatures below -10°C. In late February and early March 2018, the UK experienced a spell of severe winter weather with very low temperatures and significant snowfall. This led to widespread impacts across the UK, including disruption to transport services, school closures and power cuts. During December 2009 and January 2010, daytime temperatures were mostly sub-zero across the UK. At night, temperatures in England regularly fell to -5°C to -10°C. Snowfall across the UK lasted for some time, allowing 20cm to 30cm of snow to build up, closing schools and making it very difficult to travel. Between 1981 and 2010, there were 3 occurrences where summer mean temperatures exceeded 21.45°C on five or more consecutive days. Between 1981 and 2010, there have been 949 days with a minimum temperature below zero degrees Celsius. There are no records from the Met Office with regards to snow fall or the depth of snow between 1981 and 2010. The risk is no different to similar infrastructure in the locality. Specific measures are therefore not considered to be required as part of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	
Natural Hazards	Climatological and Meteorological	Droughts	The UK has experienced several severe droughts in recent years, with water shortages in 1995-1997, 2010-2012, 2018-2019 and 2022. Summer 2022 was the joint hottest (with 2018) and fifth driest since the 1890s. The drought affected large parts of the country and was the worst in some areas since 1976. It was part of wider European drought, believed to be the worst on the continent in 500 years. The prolonged and extensive exceptional heat, dry soils and low river	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			flows had impacts across much of the UK including water use restrictions and restrictions on waterways navigation. Agriculture was severely impacted with low crop and milk yields, as well as dying grass in grazing fields that forced farmers to use winter food stores. During the summer, there were nearly 25,000 wildfires which spread easily across dry fields and also affected urban areas. A Level 4 heat health alert was issued for the first time since its introduction in 2004, and there was an estimated 2,800 excess deaths of over 65s due to heat between June and August. During the 2010-12 drought, parts of eastern England recorded their lowest 18 month rainfall total in over 100 years. There are statutory duties to plan and manage the supply and demand of water. The drought response framework by the 'Environment Agency' collaborates Government, water companies and others to manage water resources during a drought. There is an availability of around 25% of groundwater supply in the Study Area of the Proposed Development supported by the Great Ouse, a semi-stable river catchment. Prolonged periods of drought can impact infrastructure as drying out and cracking of soils may affect structural stability, and prolonged dry periods can lead to cracking of surfaces and more rapid deterioration of materials. Decreased rainfall combined with an increase in the average temperature can also increase subsidence. The Proposed Development should not be vulnerable to drought as water is not an essential service during the construction, use or maintenance phases. The design of the Proposed Development will be resilient to ground shrinkage, and this risk should remain in the design risk register until designed out. Therefore, this MA&D event type has been scoped out from further assessment.	
Natural Hazards	Climatological and Meteorological	Severe Space Weather: Solar Flares	Solar flare events are known to interrupt radio and other electronic communications. Records from solar storms in 1921 and 1960 describe widespread radio disruption and impacts on railway signalling and switching systems. During the solar storm in May 2024, reportedly there were power grid irregularities and Global Positioning System (GPS) and high-frequency radio communications	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			were impacted. Some aerial drone users flying during the storm experienced difficulty maintaining a stable hover, disruption of GPS signals, and in some cases a sudden loss of control. There were no reported significant impacts to the public. There is a reliance on technology however, it is anticipated that the risk of vulnerability to a MA&D event for the Proposed Development would be comparable to that for other hospitals in the UK. Specific measures are therefore not considered to be required as part of the Proposed Development. Therefore, this MA&D event type has been scoped out for further assessment.	
Natural Hazards	Climatological and Meteorological	Severe Space Weather: Solar Energetic Particles	Solar energetic particles which cause solar radiation storms, but only in outer space, so this MA&D event type can be scoped out.	No
Natural Hazards	Climatological and Meteorological	Severe Space Weather: Coronal Mass Ejections	Coronal mass ejections (CME) cause geomagnetic storms. The geomagnetic storm in 2003 caused the UK aviation sector to lose some GPS functions for a day, however no known significant impact on the public or infrastructure. The geomagnetic storm in 2024 caused some disruption however, there was no known significant impact on infrastructure in the UK. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Climatological and Meteorological	Fog	Fog is one of the most common weather conditions in the UK, particularly throughout autumn and winter. Severe disruption to transport occurs when the visibility falls below 50m over a wide area. It is only during the construction phase when fog may impact the Proposed Development. There would be a risk to construction workers travelling to the Site, but this risk would not be significantly different from the baseline. Workers' health and safety is also managed by Occupational Health and Safety legislation. During the construction phase, works would be paused during poor visibility conditions. It is therefore considered that this MA&D event type can be scoped out from further assessment.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
Natural Hazards	Climatological and Meteorological	Wildfires: Forest fire, Bush / brush, pasture	The Proposed Development is not located in, or surrounded by, areas of woodland that could be at risk of wildfire events during hot, dry periods and/or fires initiated by construction related activities. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Climatological and Meteorological	Poor Air Quality	In 2006 the UK experienced two periods of extended hot weather with associated elevated ozone and harmful airborne particles. In the spring of 2015, two particle pollution episodes caused widespread poor air quality throughout the UK, with multiple areas measuring 'High' on the Daily Air Quality Index and resulted in around 1,100 deaths due to exacerbation of pre-existing ill-health conditions. Summer 2015 also contained two elevated ozone episodes. Construction: Construction effects would be temporary for the duration of the construction phase. Increased dust emissions from construction activities and combustion related emissions from on-site plant and vehicles could affect local air quality at nearby sensitive receptors (residential receptors). Provided mitigation measures are in place during the construction phase, the changes in local air quality are not expected to be significant. Operation: The Proposed Development has the potential to impact on existing air quality as a result of road traffic exhaust emissions such as NO2, PM10 and PM2.5, associated with vehicles travelling to and from the Proposed Development. In addition, the Proposed Development also includes a number of diesel-powered standby generators. These generators will only be used for an emergency (e.g. loss of power from the main power supply) and will be regularly tested. Testing of the back-up generators will be minimal at less than 50 hours per year and therefore should not cause concern for air quality. A detailed air quality assessment will be undertaken as part of the ES and if necessary, appropriate mitigation measures identified. Therefore, it is considered that this MA&D event type can be scoped out from further assessment.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
Natural Hazards	Biological	Disease epidemics: Viral; Bacterial; Parasitic; Fungal; and Prion.	The Proposed Development is located in a developed country where the population is in general good health. Furthermore, the use of the Proposed Development (hospital) is not going to give rise to any disease epidemics. The most recent disease epidemic in England was COVID-19, the first cases of which were identified in February 2020. Although no longer considered a global health emergency by The World Health Organisation, the vulnerability of the Proposed Development to a MA&D event caused by COVID-19 during construction and operation should be mitigated by the occupational health and safety processes that are implemented by both the contractor and government rules and guidelines on the control of spread of COVID-19. The UK Health Security Agency, the executive agency of the Department of Health is responsible for protecting the nation from public health hazards, preparing for and responding to public health emergencies. One of the UK Health Security Agency's functions is to protect the public from infectious disease outbreaks and the Agency has produced a document providing operational guidance for the management of outbreaks of communicable disease, 'Communicable Disease Outbreak management: Operational Guidance'. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Biological	Animal Diseases: Avian influenza; West Nile virus; Rabies; Foot and mouth; and Swine fever.	Low and highly pathogenic avian influenza has been recorded in poultry in the UK several times in the last 10 years, most recently in the winter of 2021/22 and 2022/23, although with no human cases reported. There was a devastating foot and mouth outbreak in 2001. However, there are no recorded foot and mouth burial pits in the Study Area. The use of the Proposed Development (hospital) is not going to be the source of any animal disease epidemics. Spread would be controlled through containment of infected animals including prohibition of transportation. Therefore, this MA&D event type has been scoped out from further assessment.	No
Natural Hazards	Biological	Plants	Should invasive plant species be identified during ecological survey works or during construction, standard control measures would be	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			implemented by the appointed contractor during construction to handle and dispose of any diseased plants and/or injurious weeds, and prevent their spread. It is therefore considered that this MA&D event type can be scoped out from further assessment.	
Technological or Manmade Hazards	Societal	Extensive public demonstrations which could lead to violence and loss of life.	The Proposed Development is located in a developed country that has steady, yet small population growth. England is politically stable with no direct border with countries experiencing conflicts. The Proposed Development is not considered highly controversial and should not lead to high profile public demonstrations. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Societal	Widespread damage to societies and economies.	The Proposed Development is located in a developed country that has steady, yet small population growth. England is politically stable with no direct border with countries experiencing conflicts. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Societal	The need for large-scale multi-faceted humanitarian assistance.	The Proposed Development is located in a developed country that has steady, yet small population growth. England is politically stable with no direct border with countries experiencing conflicts. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Societal	The hindrance or prevention of humanitarian assistance by political and military constraints.	The Proposed Development is located in a developed country that has steady, yet small population growth. England is politically stable with no direct border with countries experiencing conflicts. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Societal	Significant security risks for humanitarian relief workers in some areas.	The Proposed Development is located in a developed country that has steady, yet small population growth. England is politically stable with no direct border with countries experiencing conflicts. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Societal	Famine	The Proposed Development is located in a developed country that produces its own crops and imports food. It is politically stable and not subject to hyperinflation and therefore food is available, whether	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			produced within the UK or imported. Famine is also not relevant to the use of the Proposed Development (hospital). Therefore, this MA&D event type has been scoped out from further assessment.	
Technological or Manmade Hazards	Societal	Displaced population	There will be no displacement of populations as part of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Industrial and Urban Accidents	Major Accident Hazard Chemical sites	There are no Control of Major Accident Hazard (COMAH) sites within a 5km radius of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Industrial and Urban Accidents	Major Accident Hazard Pipelines	There are no major accident hazard pipelines identified within 500m of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Industrial and Urban Accidents	Nuclear	Nuclear sites are designed, built and operated so that the chance of accidental releases of radiological material in the UK is extremely low. The last historical major accident in the UK was Windscale in 1957. There are no nuclear sites within a 5km radius of the Proposed Development, the nearest operational nuclear power plant is Sizewell B Power Station, approximately 125km east of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Industrial and Urban Accidents	Fuel storage	In December 2005 Europe's largest peacetime fire occurred at the Buncefield Oil Storage Terminal in Hemel Hempstead, England. The surrounding area was temporarily evacuated and some local businesses experienced long-term disruption to operations. There are no bulk fuel storage sites within 500m of the Proposed Development. Diesel will be stored at the Proposed Development to power the emergency backup generators however, this will only be stored in small quantities in appropriately bunded tanks. Therefore, this MA&D event type has been scoped out from further assessment.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
Technological or Manmade Hazards	Industrial and Urban Accidents	Dam breaches	Dam breaches in the UK are rare; the last major breach was at the Cwm Eigiau dam in 1925, which caused 17 fatalities and widespread flooding. The Environment Agency Flood Risk from Reservoirs map indicates that there is no risk of flooding from reservoirs in the Proposed 29070Development's boundary. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Industrial and Urban Accidents	Mines and storage caverns	The Proposed Development is not within an area affected by coal or non-coal (e.g. gypsum, brine, clay) extraction. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Industrial and Urban Accidents	Fires	The Proposed Development is located in a predominantly residential area. Fires could be initiated by construction related activities which impact areas adjacent to the construction activities. During construction, standard control measures would be implemented by the appointed contractor to manage the risk of fire. During the operational phase there will be small quantities of diesel stored on Site for the emergency backup generators however, the risk of fires affecting the Proposed Development during operation is no greater than risks for the existing hospital. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Transport accidents	Road	Significant transport accidents occur across the UK on a daily basis, mainly on roads, and involving private and/or commercial vehicles. During construction there will be an increase in heavy construction plant and equipment on the local road network which may increase the risk of accidents. Construction traffic will be routed via prescribed roads that are considered to be the most suitable for the volume and composition of traffic likely to be required to construct the Proposed Development.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			During operation the potential risk of road traffic accidents will be no greater than the risk associated with the existing hospital. A detailed traffic assessment will be undertaken as part of the ES and the environmental risks posed by spillages of hazardous loads as a result of road accidents will be considered in the ES therefore, it is considered that this MA&D event type can be scoped out from further assessment from a MA&D perspective.	
Technological or Manmade Hazards	Transport accidents	Rail	There are no railways within 100m of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Transport accidents	Waterways	The River Great Ouse is the closest waterway used for pleasure craft. However, the River Great Ouse is located approximately 1.5 km south east of the Proposed Development. Thus, a waterway accident is unlikely to have a significant impact on the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Transport accidents	Aviation	There have been no major air accidents in the UK since the Kegworth incident in 1989. There are no working airfields within 13km of the Proposed Development. The nearest Airport is Cambridge City Airport, located approximately 28km south east of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Pollution accidents	Air	Construction activities may cause dust emissions which may contribute to poor air quality albeit on a temporary basis especially due to the use of fossil fuelled mobile plant and equipment during the construction phase. However, emissions from mobile plant and equipment are covered under H&S and environmental legislation. Emissions associated with vehicles travelling as part of the Proposed Development may contribute to events associated with poor air quality.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			The potential for this event will be considered in detail as part of the air quality assessment in the ES, and it is therefore not considered a requirement to evaluate this further from a MA&D perspective. Therefore, this MA&D event type has been scoped out from further assessment.	
Technological or Manmade Hazards	Pollution accidents	Land	During construction there may be an increase in the risk of leaks and spillages of hazardous materials associated with the construction activities. During construction, standard control measures would be implemented by the appointed contractor to manage the risk of spillages and leaks. The risks associated with potentially mobilising contamination will be assessed in the ES and considered in the CDM Risk Register with appropriate mitigation measures identified. It is therefore considered that this MA&D event type can be scoped out from further assessment in the ES from a MA&D perspective.	No
Technological or Manmade Hazards	Pollution accidents	Water	The underlying Oxford Clay Formation bedrock is classified as unproductive strata.The site is not situated within a groundwater source protection zone (SPZ) and there are no groundwater or surface water abstractions within 500m of the Proposed Development. During construction there may be an increase in the risk of leaks and spillages of hazardous materials associated with the construction activities. During construction, standard control measures would be implemented by the appointed contractor to manage the risk of spillages and leaks. The Proposed Development has been designed to take account of any accidental spillages through modern drainage and treatment systems. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Utilities failures	Electricity	Instances of electricity failure (also referred to as power loss or blackout) can be caused by a number of things, such as severe weather (e.g. very strong winds, lightning and flooding) which	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			damage the distribution network. These tend of be mainly specific place, local (e.g. metropolitan area) and less frequently regional (e.g. north east) as a result of severe winter storms and consequent damage to the distribution overhead line network. Underground electrical transmission lines are present across the Site, the responsibilities of which lie with the relevant local operator or company should this infrastructure fail. Information regarding diversion works would be considered in the Environmental Impact Assessment. The potential risk of construction-related incidents when undertaking diversion works as part of the Proposed Development would be covered by existing legislation. Therefore, this MA&D event type has been scoped out from further assessment.	
Technological or Manmade Hazards	Utilities failures	Gas	Natural gas transmission pipelines are present across the Proposed Development, the responsibilities of which lie with the relevant local operator or company should this infrastructure fail. Information regarding diversion works would be considered in the Environmental Impact Assessment. The potential risk of construction-related incidents when undertaking diversion works as part of the Proposed Development would be covered by existing legislation. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Utilities failures	Water supply	There is water use associated with the construction and operation of the Proposed Development. In the event of mains water supply failure, water could be supplied through water tanker trucks during the construction phase. During the operational phase the local operator would pump water into the water supply network as required. In addition, the risk will be no greater than the risk associated with the existing hospital. Therefore, this MA&D event type has been scoped out for further assessment.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
Technological or Manmade Hazards	Utilities failures	Sewage system	The Proposed Development does involve the use of the sewage system. During the construction phase temporary portable systems will be in place covered by H&S welfare requirements. During the operational phase failure of the sewage system would be managed by the local operator. In addition, the risk will be no greater than the risk associated with the existing hospital. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Malicious Attacks	Unexploded Ordnance	The Zetica Risk Maps for the area indicated that the Proposed Development is located in a low UXO risk area. The risks associated with potentially encountering UXO will be considered in the CDM Risk Register. Measures would be undertaken during construction to brief operatives to raise awareness of this issue, and to define appropriate response strategies should this be discovered during the works. There would be a limited risk of UXO affecting the Proposed Development, once operational but no greater than the existing hospital. It is therefore considered that this MA&D event type can be scoped out from further assessment.	No
Technological or Manmade Hazards	Malicious Attacks	Attacks: Chemical; Biological; Radiological; and Nuclear.	Extremists remain interested in Chemical, Biological, Radiological and Nuclear (CBRN) materials, however alternative methods of attack such as employing firearms or conventional explosive devices remain far more likely. Historical use has been in closed densely occupied structures (underground, buildings) or targeted at specific individuals. The Proposed Development is unlikely to be a target for this type of event due to the low number of exposed targets. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Malicious Attacks	Transport systems	Potential systems would include (but are not limited to) railways, buses, passenger ferries, cargo vessels and aircraft.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
			The Proposed Development is unlikely to be a target for this type of event due to the low number of exposed targets. Therefore, this MA&D event type has been scoped out from further assessment.	
Technological or Manmade Hazards	Malicious Attacks	Crowded places	The Proposed Development does not fall within the definition of a crowed place, i.e. pedestrian routes and other thoroughfares as well as sports arenas, retail outlets and entertainment spaces. The Proposed Development is unlikely to be a target for this type of event due to the low number of exposed targets. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Malicious Attacks	Cyber	Cyber attacks occur almost constantly on key national and commercial electronic information, control systems and digital industries. The Proposed Development is not considered to be more vulnerable to cyber attacks as the UK government ensures cyber resilience through the 'Government Cyber Security Strategy (2022 - 2030)' and 'National Cyber Strategy' comprising various aspects including detection and management of malicious attacks, and mitigating the impacts caused by these attacks. In addition, the risk will be no greater than the risk associated with the existing hospital. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Malicious Attacks	Infrastructure	Terrorists in the UK have previously attacked, or planned to attack, national infrastructure. Attempts were made to attack electricity substations in the 1990s. Bishopsgate, in the City of London, was attacked in 1993 and South Quay in London's Docklands in 1996. These attacks resulted in significant damage and disruption but relatively few casualties. The Proposed Development would have minimal impact on local infrastructure or be considered a high profile attack. In addition, the risk will be no greater than the risk associated with the existing hospital. Therefore, this MA&D event type has been scoped out from further assessment.	No

MA&D Group	MA&D Category	MA&D Type	Basis of Decision to Scope In / Out	Scope In?
Technological or Manmade Hazards	Engineering accidents and failures	Bridge failure	There are no bridges or bridge works are not proposed as part of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Engineering accidents and failures	Flood defence failure	There are no rivers or streams within 1 km of the Proposed Development. Hence, the Proposed Development does not benefit from flood defences or flood storage areas. The design of the Proposed Development has been developed to include allowances for future climate change predictions that could result in flooding. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Engineering accidents and failures	Mast and tower collapse	There are no towers or masts in close proximity to the Proposed Development or being built as part of the Proposed Development. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Engineering accidents and failures	Property or bridge demolition accidents	The Proposed Development involves demolition works to take down existing hospital buildings and structures. The risks of accidents occurring during these works would be taken into account by the appointed contractor and considered as part of their detailed methodology and risk assessments in advance of these works as required under the Construction Design Management Regulations 2015. Surveys would be undertaken prior to the demolition of properties and structures to confirm whether any potential harmful substances (e.g. asbestos) are present, and to determine the risk to people. Therefore, this MA&D event type has been scoped out from further assessment.	No
Technological or Manmade Hazards	Engineering accidents and failures	Tunnel failure / fire	There are no tunnel structures proposed as part of the Proposed Development.	No

To summarise, all of the MA&D types have been scoped out from further assessment in the ES.

LIMITATIONS AND ASSUMPTIONS

To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The design of the Proposed Development will be subject to relevant hazard identification studies and actions identified will be integrated into the final design, to reduce risks to ALARP.
- The construction phase of the Proposed Development will be managed through the implementation of the construction phase plan required under the CDM Regulations 201517 and a COCP;
- The Proposed Development is being designed, and its implementation guided by other industry standards and codes, many of which are mandatory. These require infrastructure and systems to be designed so that risks to people and the environment are either eliminated or reduced to levels that are ALARP;
- Environmental effects associated with unplanned events that do not meet the definition of a MA&D (e.g. minor leaks and spills that may be contained within the construction sites) are addressed in other environmental aspect chapters as appropriate and not in this appendix; and
- It is recognised that the management framework for the Proposed Development is not fully defined at this stage; however, a presumption of standard practice and regulatory compliance within the adopted management framework has been assumed and will be developed following the appointment of the Principal Contractor.

[17] HM Government. (2015). 'The Construction (Design and Management) Regulations 2015'. Available at: https://www.legislation.gov.uk/uksi/2015/51/contents/made

Appendix C

WIND MICROCLIMATE ASSESSMENT

CONFIDENTIAL

2 WIND MICROCLIMATE

2.1 INTRODUCTION

2.1.1. This section describes the scope for the wind microclimate assessment for the Proposed Development at Hinchingbrooke Hospital.

2.1.2. Based on a review of the documents available for the proposed development, it is recommended that the Wind Microclimate assessment will be conducted as a stand-alone report and scoped out of the Environmental Impact Assessment (EIA). This recommendation is based on the expectation that any issues identified through the assessment can be resolved through design and local mitigation, which will be the focus of this stand-alone analysis. The stand-alone report may be appended to the Environmental Statement for reference.

2.1.3. This study will aim to compare the pedestrian-level wind environment around the Proposed Development against comfort and distress criteria and to the conditions of the existing Site. The study will pay particular attention to pedestrian access routes, seating areas, as well as building drop-offs and entrances.

2.1.4. The wind microclimate around an urban environment is affected by terrain, buildings, and other obstructions. The introduction of a new building development can affect the local wind flow patterns, which can produce an uncomfortable and/or unsafe wind environment at pedestrian level. This is particularly important for buildings which are taller than their surroundings. Fast-moving high-level winds can downdraft to street level along windward faces of buildings. As air then moves into the low-pressure wake of the building, it can accelerate around corners and/or through restrictions, causing localised regions of relatively high wind speed.

2.1.5. A detailed Computational Fluid Dynamics (CFD) study will be used to provide a reliable quantification of the pedestrian level and high-level terrace wind environment at locations such as pedestrian access routes, building entrances, and high-level terraces. The study will combine numerically obtained pedestrian level wind speeds at key areas within and around the Site of the Proposed Development with long-term wind frequency statistics transposed from the nearest suitable weather station to determine the probability of local wind speeds exceeding comfort and safety thresholds for a range of common pedestrian activities. The assessment will be based on the LDDC version of the Lawson criteria which represents best industry practice in the UK.

2.2 OVERVIEW OF BASELINE CONDITIONS

2.2.1. The baseline assessment will be undertaken based on the current hospital Site to establish the existing wind conditions. This will include all buildings on Site, including the recently completed Theatre Block, and the existing surroundings within 500m radius of the Site. The study area is illustrated in Figure 1.

2.2.2. This baseline will be used as a reference to measure the magnitude of change resulting from the Proposed Development, which will be assessed under equal conditions.

2.2.3. Information to define the baseline model will be collected from available sources, including existing drawings, topographical surveys, mapping data, aerial photographs, and planning portal drawings. The study area will cover a 500m radius from the centre of the Site.

2.2.4. The existing conditions in the Site are shown in Figure 2.

Figure 1 – Existing Hospital and Surroundings (Satellite Image)



Figure 2 – Existing Hospital Baseline Conditions – West View



2.3 ASSESSMENT METHODOLOGY

2.3.1. The pedestrian-level wind environment in an urban setting will depend on the general wind conditions as well as on the effects of the urban environment itself. Therefore, the assessment will consist of three main parts: calculation of the urban environment's aerodynamic effect on the wind; which is then combined with historical wind data; and, finally, compared against criteria to quantify the discomfort and/or level of distress caused by the wind.

2.3.2. The assessment of the wind microclimate impacts comprises 3 scenarios:

- Baseline Scenario: Assessment of the existing buildings on the Site with the existing surrounding context.
- Proposed Scenario: Assessment of the Proposed Development on the Site with the existing surrounding context.
- Cumulative Effects: This scenario includes the effects of the Proposed Development in combination with other future (consented) schemes.

2.3.3. The methodology to be adopted for the study incorporates Computational Fluid Dynamics (CFD) modelling to predict air flows and wind velocities around the Proposed Development. A 3D computer model of the Site and the surrounding area will be created for the assessment. The model will exclude both soft and hard landscaping (trees, street furniture etc.), which is a representation of the worst-case scenario since landscaping will generally improve the wind environment. This approach is standard practice.

2.3.4. The CFD assessment will be aimed at quantifying the local wind speeds on the Site and in the vicinity of the Site at street level for a full range of wind directions. Additionally, an assessment of the open amenity spaces at elevated level within the scheme will be also included.

2.3.5. Long-term wind data records from the nearest weather station will be adapted with Site specific roughness factors to assess the local wind conditions surrounding the Site.

2.3.6. The recommended guidance is based on the frequency of exceedance of wind speeds for all incoming wind directions; therefore, in addition to the wind testing, a statistical procedure to combine the wind speed frequencies with historical wind data will be carried out to determine the suitability of the Site and surrounding area for the various pedestrian categories (sitting, standing, strolling and business walking).

2.3.7. The Lawson Comfort Criteria will then be applied, and a comparison made between the modelled results of the CFD assessment in terms of the suitability for various pedestrian activities against the desired pedestrian activity in that location. The Lawson Comfort Criteria define a scale for assessing the suitability of wind conditions in the urban environment based upon threshold values of wind speed and frequency of occurrence. The frequency of occurrence is used as an indicator of the likely duration of wind speeds. The criteria provide ranges of acceptability to maintain pedestrian comfort for different activities and relate frequency of occurrence to the hourly average wind speed ranges.

2.3.8. The Lawson criteria are specifically designed for pedestrian activities and are related to pedestrian comfort and safety. Therefore, the assessment will concentrate on assessing the areas with pedestrians use only, including cyclists, as shown on Table 1 and Table 2 below.

2.3.9. The methodology for subsequent wind assessments beyond the outline stage will be reviewed at the appropriate time and will consider both CFD and Wind Tunnel testing for the detailed assessments.

Table 1: Lawson's Comfort Assessment Criteria

Comfort Category	Mean and GEM wind speed (5% exceedance)	Description
Sitting	4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods.
Standing	6 m/s	Gentle breezes suitable for main building entrances, pick-up/drop-off points and bus stops.
Leisure Walking	8 m/s	Moderate breezes that would be appropriate for strolling along a city/town centre street, plaza or park.
Business Walking	10 m/s	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering.
Uncomfortable	>10 m/s	Winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended.

2.3.10. The Lawson Criteria method also identifies a safety criterion to identify those areas where someone could find walking difficult, or even stumble and fall. The criteria define threshold wind speeds not to be exceeded for more than 0.025% of the year. These are particularly strong winds that could cause people to have difficulties while walking and also stumble or fall. The safety criterion is set out in Table 2 below.

Table 2: Lawson's Safety Assessment Criteria

Safety Rating	Threshold Mean-Hourly Wind Speed Exceeded Once Per Annum (0.025%)	Potential Effects	Development Constrains
S15 - Unsuitable for the general public	>15 m/s	Less able and cyclists find conditions physically difficult.	S15 threshold not to be exceeded in areas accessible to the general public: sitting areas, standing areas, leisure walking areas. Mitigation required
S20 - Unsuitable for able-bodied	>20 m/s	Able-bodied persons find conditions difficult. Physically impossible to remain standing during gusts.	Threshold not to be exceeded in areas with limited public access, e.g. maintenance areas and carparks.

2.3.11. The wind assessment for each of these criteria will be tested taking into account the season and will inform the suitability for different activities on the Site based on the following general target wind conditions:

- Outdoor amenity and seating areas: 'Sitting' during the summer season
- Building entrances, bus stops, drop off areas: 'Standing' during all seasons;
- Pedestrian circulation routes: 'Leisure Walking' during all seasons; and pedestrian thoroughfares (minor pedestrian routes): 'Business Walking' during all seasons.

Receptors

2.3.12. The receptors for the wind assessment will be the users of the outdoors spaces within the Site and adjacent surroundings. This will include both existing and new receptors.

2.3.13. The sensitive outdoor areas to be assessed include:

Existing Receptors

- Existing outdoor amenity and seating areas at ground level
- Existing building entrances, bus stops, drop off areas
- Existing pedestrian circulation routes

New Receptors

- Outdoor amenity and seating areas at ground level and elevated levels within the Proposed Development
- Building entrances, bus stops, drop off areas within the Proposed Development
- Pedestrian circulation routes within the Proposed Development

2.4 MITIGATION

2.4.1. All areas both within and off-Site will need to be safe and suitable for the expected use such as 'sitting', 'standing', 'leisure walking' and 'business walking', considering the seasons and the specific location.

2.4.2. Where the results of the assessments identify areas where the recommended guidelines are not met or where the suitability exceeds that of the intended use, mitigation measures will be identified to limit the adverse effect of the Proposed Development and/or achieve suitability for the designated uses.

2.4.3. In general, mitigation measures to improve the wind environment in addition to optimising the massing and orientation of the buildings can include trees, landscape features, wind screens/porous barriers and building canopies, which would be implemented at a later stage, if needed.

2.4.4. The potential benefits of wind mitigation measures are described below:

- Canopies: provide shelter from wind being driven downwards if large enough; however, they provide little shelter for horizontal ground level winds.
- Planting and Landscaping: wind tolerant species of trees may provide shelter from both downward driven winds and horizontal winds around corners and passageways. The aerodynamic loss caused by the wind passing through the tree's foliage ameliorate the wind environment during winter. However, if too dense this may cause an increase in wind speed below the foliage.

- Physical Barriers ameliorate the wind environment by disconnecting the windward and leeward wind pressure areas that determine air flow.
- Porous Barriers: Urban sculptures and baffles ameliorate horizontal wind speeds providing local shelter by dissipating the wind's energy. The sheltered area depends on the barrier's size.
- Solid Barriers: Screens and solid barriers interrupt high speed winds locally but tend to displace the problem elsewhere. It is thus important to use caution when implementing this type of measures.

2.5 LIMITATIONS AND ASSUMPTIONS

2.5.1. The following limitations and assumptions have been identified:

- The assessment will take into consideration all external wind effects at pedestrian level. Other potential wind effects including facade wind loads, structural response, natural ventilation and internal flows within buildings are not within the scope of this assessment.
- The assessment also will exclude impacts on vehicles or waterways since the Lawson Criteria focus on impacts to pedestrians.
- The wind effects on areas beyond 900m from the Site will be considered insignificant in line with best practice guidelines.
- The model for the wind assessment will include all relevant buildings and structures in the surrounding area but as a worst-case scenario will exclude trees and landscape features. Where required, these could be added to test mitigation options).

2.6 REFERENCES

- Eurocode 1 – Actions on Structures, Part 1-4: General Actions – Wind Actions (BS EN 1991-1-4:2005)
- Lawson, T., 2001. Building aerodynamics, Imperial College Press [ISBN 1-86094-187-7]
- ESDU 2010 Item 01008 'Computer program for wind speeds and turbulent properties: flat or hilly sites in terrain with roughness changes'
- Shih, T.H., Liou, W.W., Shabbir, A., Yang, Z. and Zhu, J., 1995. A new k-ϵ eddy viscosity model for high Reynolds number turbulent flows. Computers & Fluids, 24(3), pp.227-238.
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Appendix D

DAYLIGHT, SUNLIGHT AND OVERSHADOWING ASSESSMENT

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1 DAYLIGHT, SUNLIGHT AND OVERSHADOWING

1.1 INTRODUCTION

1.1.1. This section describes the scope for the Daylight, Sunlight, and Overshadowing (DSO) assessment for the Proposed Development at Hinchingbrooke Hospital.

1.1.2. Based on a review of the documents available for the proposed development, it is recommended that the DSO study will be conducted as a stand-alone report and scoped out of the Environmental Impact Assessment (EIA). This recommendation is based on the expectation that any issues arising from the assessment are likely to be localised and can be resolved through design adjustments, which will be the focus of this standalone analysis. The stand-alone report may be appended to the Environmental Statement for reference.

1.1.3. The assessment will quantify daylight and sunlight access to identified receptors and compare the baseline and proposed conditions to determine the impact.

1.1.4. The assessment will focus the impact on natural light availability to windows, rooms, and open amenity spaces of surrounding developments. The existing context within which the hospital is located is residential, with typical suburban housing developments to the south and west of the proposed site (the Site). The Site is on the outskirts of Huntingdon just outside the city of Cambridge.

1.1.5. The study will identify sensitive receptors such as adjacent residential properties, schools, and any other buildings that require natural light for their operation. These areas are where occupants reasonably expect to receive daylight and sunlight, including the proposed amenity areas within and off-Site. Surrounding open amenity spaces, such as gardens, roof terraces and playgrounds that may be affected by the Application Site, will also be part of the assessment.

1.2 OVERVIEW OF BASELINE CONDITIONS

1.2.1. The Baseline assessment will be undertaken based on the current hospital Site to set out of the existing conditions (Figure 1). This will be assumed to be all the existing buildings on the Site including the nearly finished Theatre Block, within the existing surroundings. The Baseline Conditions is illustrated in Figure 2 below.

1.2.2. The Baseline assessment will be used as a reference from which the magnitude of change will be measured for the Proposed Development which will be assessed under equal conditions.

1.2.3. The information to define the Baseline model will be collected from available sources including existing drawings, topographical surveys, information from mapping data, aerial photographic data for the area, and drawings within the planning portal.

Figure 1 – Existing Hospital and Surroundings (Satellite Image – South View)



Figure 2 – Existing Hospital Baseline Conditions – West View



1.3 APPROACH TO ASSESSMENT

POTENTIAL IMPACTS

1.3.1. Potential impacts are those where the daylight and sunlight conditions of a receptor deteriorate or improve as a result of the Proposed Development such that it either falls short or satisfies the recommended criteria of usage as defined in the recommended guidelines.

1.3.2. The assessment of effects on the receptors surrounding the Site will be based on an assessment of the change from the 'Baseline Scenario' assumed to be the existing Site and the existing properties surrounding the Site (including properties under construction at the time of the assessment assessed in their final form such as the Theatre Block).

1.3.3. In the 'Proposed Scenario' the Proposed Development will be introduced on the Site replacing the existing buildings for a direct comparison. The Proposed Scenario will also exclude all the buildings which are to be demolished. This approach allows determining the impact that the Proposed Development will have on the surrounding properties in terms of daylight, sunlight and overshadowing of open spaces.

METHODOLOGY

Impact On Neighbouring Properties

1.3.4. As mentioned in the Potential Impacts sub-section above, the assessment will consider the magnitude of change between the Baseline Scenario and the Proposed Scenarios. An additional scenario will evaluate the cumulative effects, which include any relevant adjacent consented schemes along with the Proposed Development. The magnitude of impact for this scenario will also be measured against the Baseline Scenario.

1.3.5. The assessment of the daylight and sunlight impacts will comprise 3 scenarios:

- Baseline Scenario: Assessment of the existing buildings on the Site with the existing surrounding context.
- Proposed Scenario: Assessment of the Proposed Development on the Site with the existing surrounding context.
- Cumulative Effects: This scenario includes the effects of the Proposed Development in combination with other future (consented) schemes.

1.3.6. The assessment criteria to be used for the study will be based on the guidelines within the BRE Guide: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice which is recognised as the most appropriate method for daylight, sunlight and overshadowing assessments.

1.3.7. The sensitive receptors to be considered in the assessment include:

- Existing properties in the surrounding area
- Open amenity areas within and off the Site

Receptors

1.3.8. The receptors for the daylight and sunlight assessment will be the properties adjacent to the site where there is a requirement for natural light. To undertake the assessment, the key sensitive receptors around the Application Site need to be identified. According to the BRE Guide, sensitive

receptors are described as rooms and windows to habitable rooms facing the Site where the occupants have a reasonable expectation of natural light.

1.3.9. The guidelines for sunlight will be applied to the existing properties for the windows facing within 90° of due south.

1.3.10. Sensitive receptors for overshadowing of open spaces include gardens and open amenity spaces on adjacent properties, excluding public footpaths, front gardens and car parks. The indicative locations of the sensitive receptors of this assessment is shown in Figure 3 below.

Figure 3 – Indicative Existing Sensitive Receptors



1.3.11. The potential receptors for daylight and sunlight are listed below:

- South of the Site: Dwellings and private gardens located along ‘Hinchingbrooke Park Rd’.
- West of the Site: Dwellings, School and open amenity spaces located along ‘Park Way’.
- North and east of the Site: ‘Views Common’ open greenspace.

Sensitivity of Receptors

1.3.12. A sensitivity rating has been developed using professional judgement based on the BRE Guide, which is described below and categorised into high, medium and low based on the function or use of the space being assessed. This rating is indicative and there will be occasions where the sensitivity may be interpreted differently:

Daylight

- Habitable rooms such as living rooms, kitchens and bedrooms within residential developments generally require good levels of daylight to render them more enjoyable and adequate to their function. Windows to such spaces are classified as having high sensitivity to daylight.

- Non-domestic buildings where the occupants have a reasonable expectation of daylight but where artificial light is common and do not solely rely on natural light, such as offices, hotels, hostels, and schools, have been classified as having a medium sensitivity to daylight.
- Retail developments usually rely on mechanical control and are not considered spaces where there would be an expectation of daylight by the user. Thus, windows to such spaces can be classified as having low sensitivity to daylight.

Sunlight

- Windows of residential dwellings have been classified as having high sensitivity to sunlight, particularly for living rooms and conservatories. In the absence of internal layout information of the surrounding residential developments, all windows on the southern façades will be classified as having a high sensitivity to sunlight as a worst-case scenario.
- Windows of non-domestic buildings where people spend a considerable amount of their time, such as offices, hotels, hostels, and schools, are classified as having a medium sensitivity to sunlight particularly for the windows on the southern facades.
- Retail developments usually rely on mechanical climate control to achieve comfort and reduce the effect of outside air and noise pollution, particularly in urban areas. Receptors to these spaces are classified as having a low sensitivity to sunlight.

Overshadowing of Open Amenity Spaces

- For the overshadowing of open spaces, gardens and open amenity spaces on adjacent properties are classified as having a high sensitivity.
- Open areas which are not designated to be used by the general public as an amenity area, such as street landscape, and roundabouts, are classified as having a low sensitivity.

1.3.13. For the purpose of this assessment and given the nature of the locality, only receptors with high sensitivity will be assessed.

METRICS AND CRITERIA - EXISTING RECEPTORS

1.3.14. The assessment will be carried out to determine the level of adherence to the recommended BRE Guide on the existing adjacent properties.

1.3.15. The BRE Guide uses a set of metrics to quantify the potential effect on daylight and sunlight levels including:

- Obstruction Angle (25°);
- Vertical Sky Component (VSC);
- No-Sky Line (NSL); and,
- Probable Sunlight Hours (PSH: Annual Probable Sunlight Hours - APSH and Winter Probable Sunlight Hours - WPSH).

Obstruction Angle

1.3.16. This is an initial check to identify any potential impacts. If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected, and further detailed studies should be carried out.

Vertical Sky Component (VSC)

1.3.17. When the obstruction angle and the visible sky angle (θ) vary significantly when multiple windows are involved, then the Vertical Sky Component (VSC) should be used instead. The calculation of VSC usually requires specialist computer software. The VSC, in simple terms, measures the amount of sky that can be viewed from the centre of a window accounting for all external obstructions, (with 40% being the maximum value for an unobstructed window). The recommended value for VSC is 27% or greater to maintain good levels of daylight. For existing surrounding windows, if the VSC is below 27%, then a comparison of the existing and proposed VSC levels with the new development in place is calculated and a ratio of impact is derived. The BRE guidance recommends that the maximum reduction of the VSC to existing windows should be 0.8 times their former value.

No-Sky Line (NSL)

1.3.18. No-Sky Line (NSL) is used to assess the daylight distribution within rooms of the surrounding properties where the internal layout of the property is known. The No-Sky Line divides the areas of the working plane that can receive direct skylight from those which cannot. If a significant area of the working plane lies beyond the No-Sky Line (i.e., receives no direct skylight) then distribution of daylight in the room will look poor and supplementary electric lighting will be required. The BRE guidance recommends that the maximum reduction of the NSL to existing rooms should be 0.8 times their former value.

Probable Sunlight Hours (PSH)

1.3.19. Access to sunlight is measured from the windows of habitable rooms facing within 90° of due south. The Probable Sunlight Hours (PSH) calculation method measures the proportion of the window assessed that is sunlit for a period of time. The BRE Guide and BS EN 17037 recommend that the PSH is calculated for the annum (APSH) and for the winter months (WPSH) (21st September to 21st March). The recommended sunlight criteria for existing buildings potentially affected by a new development, are as follows:

- The window reference point should receive more than 25% of APSH, including at least 5% of WPSH.
- If the available sunlight hours are both less than the amount given above and less than 0.8 times their former value, either over the whole year or during the winter, then the occupants of the existing building will notice some loss of sunlight.
- The overall loss of sunlight should be maintained below 4%.

Overshadowing of Open Amenity Areas

1.3.20. For gardens or amenity areas, the BRE Guide suggests that at least half the area (50%) should receive at least two hours of sunlight on 21st March (sunlight at an altitude of 10° or less is excluded). If, as a result of a new development, an existing garden (usually the main back garden of a house) or amenity area does not meet the above criteria and the area which can receive two hours of sunlight on 21st March is less than 0.8 times its former value, then the loss of sunlight is likely to be significant.

DETERMINING MAGNITUDE OF CHANGE

1.3.21. The BRE criteria will be used to assess the likely levels of daylight and sunlight to habitable rooms in the surrounding properties. Compliance with the BRE Guidelines is achieved if the levels of

daylight/sunlight within the identified receptors of the surrounding properties are equal to or greater than the recommended values given in the Guide.

1.3.22. Compliance with the BRE Guide is also achieved for the identified receptors of the surrounding properties if the ratio of impact between the 'Baseline Scenario' and the 'Proposed Scenario' is 0.80 or higher, i.e., the reduction in daylight or sunlight hours is 20% or less. An additional criterion of overall annual loss for APSH values also needs to be satisfied to comply with the recommended BRE guidelines.

1.3.23. A negligible magnitude of change is defined if compliance with the BRE criteria is met.

1.3.24. When the criteria are not met, the BRE document does not provide guidelines for determining the magnitude of the impact. Therefore, a scale to measure the magnitude of change has been provided using professional judgement, which is discussed below.

1.3.25. For the affected receptors that lie below the recommended BRE guidelines, the magnitude of change will be rated depending on the ratio of impact between the 'Baseline Scenario' and the 'Proposed Scenario'. The criteria to be used for determining the magnitude of change for the VSC, NSL, APSH and WPSH results is detailed in Table 1 to 4 below.

Table 1: Magnitude of Change for Vertical Sky Component (VSC) Results

VSC Values	Ratio of Impact	Magnitude of Change
VSC ≥ 27%	≥ 0.8	Negligible
VSC ≥ 27%	< 0.8	Negligible
VSC < 27%	> 0.8	Negligible
VSC < 27%	0.7 – 0.8	Low
VSC < 27%	0.6 – 0.7	Medium
VSC < 27%	< 0.6	High

Table 2: Magnitude of Change for No-Sky Line (NSL) Results

Ratio of Impact	Magnitude of Change
≥ 0.8	Negligible
0.7 – 0.8	Low
0.6 – 0.7	Medium
< 0.6	High

Table 3: Magnitude of Change for Annual Probable Sunlight Hours (APSH) Results

APSH Values	Ratio of Impact	Absolute reduction	Magnitude of Change
APSH ≥ 25%	>0.8	≤ 4%	Negligible
APSH ≥ 25%	>0.8	> 4%	Negligible
APSH ≥ 25%	<0.8	> 4%	Negligible
APSH < 25%	>0.8	≤ 4%	Negligible
APSH < 25%	>0.7	>4%	Low
APSH < 25%	0.6 – 0.7	>4%	Medium
APSH < 25%	< 0.6	>4%	High

Table 4: Magnitude of Change for Winter Probable Sunlight Hours (WPSH) Results

WPSH Values	Ratio of Impact	Magnitude of Change
WPSH ≥ 5%	>0.8	Negligible
WPSH ≥ 5%	<0.8	Negligible
WPSH < 5%	>0.8	Negligible
WPSH < 5%	0.7 – 0.8	Low
WPSH < 5%	0.6 – 0.7	Medium
WPSH < 5%	< 0.6	High

1.4 MITIGATION

1.4.1. All receptors both within and off-Site will need to satisfy the requirements for daylight and sunlight.

1.4.2. Where the results of the assessments identify areas where the recommended guidelines are not met, mitigation measures will be identified to limit the adverse effect of the Proposed Development and/or achieve the required daylight and sunlight levels.

1.4.3. Within the Site, typically, mitigation measures to improve sunlight levels to open amenity spaces, include optimising the massing and orientation of the buildings.

1.5 LIMITATIONS AND ASSUMPTIONS

1.5.1. The following limitations and assumptions have been identified:

- All calculations will be based on best practice guidance and on drawing or models of the Proposed Development provided. Where required, estimations have been made with regards to the height and massing of surrounding properties, based on available satellite photographs and mapping.
- The daylight and sunlight impact assessment described above are based on current UK British Standards and conforms to UK planning requirements but does not constitute a Right of Light survey.
- Upon completion of the assessment as described within the proposed scope, any additional assessment and/or mitigation testing required will be subject to a separate fee and timescale agreement.

1.6 REFERENCES

- Ministry of Housing, Communities & Local Government, National Planning Policy Framework, 27 March 2012
- Littlefair, P.J. (2022) Site Layout and Planning for Daylight and Sunlight: a guide to good practice. BRE Construction Research Communications, Garston, UK. 2022 edition.
- British Standards Institution Standards Publication (2021), BS EN 17037:2018+A1:2021 Daylight in buildings.
- The Chartered Institution of Building Services Engineers London (1999). CIBSE Lighting Guide 'LG10'. The Friary Press, Dorchester

Appendix E

CLIMATE RISK AND RESILIENCE REPORT

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GLOSSARY

Term	Definition
Acute events	Extreme climate induced events such as hurricanes, floods, heatwaves, and wildfires that can cause immediate damage to people, assets, infrastructure and ecosystems.
Adaptive capacity	The ability of the systems based on the existing embedded measures, to adjust to potential damage to take advantage of opportunities or to respond to consequences.
Chronic events	Climate induced long-term changes that may translate into a hazard, such as sea level rise, increasing average temperatures, and changing precipitation patterns.
Climate hazard	The potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.
Climate impact	"Impact" is used primarily to refer to the effects on natural and human systems of extreme weather and climate events and of climate change. Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services and infrastructure due to the interaction of climate change or hazardous climate events occurring within a specific time-period and the vulnerability of an exposed society or system. Impacts are also referred to as consequences and outcomes. The impacts of climate change on geophysical systems, including floods, droughts and sea level rise, are a subset of impacts called "physical impacts".
Climate parameter	The broad classification of climate variables, including temperature, humidity, precipitation, wind and sea level.
Climate trend	Climate trends refer to the pattern of climate change over decades to understand how the climate is changing. Trends indicate potential climate hazards that may arise in a climate parameter.
Confidence	The level of certainty in climate trend data. Confidence is assessed by considering the range in the climate data percentiles (10th, 50th and 90th) and the likelihood and degree to which the projected trend will occur.
Exposure	The presence of people, livelihoods, species or ecosystems, environmental functions, services, resources, infrastructure, or economic, social or cultural assets in places and settings that could be affected.
Impact consequence	The outcome of the impact, considering the severity of the hazard, vulnerability and adaptive capacity of the people, infrastructure or systems.
Impact likelihood	The chance of an impact on people, infrastructure systems and assets, occurring due to a climate induced risk
Intensity of change in climate trend	Refers to the strength or magnitude of change in a specific climate parameter over time and may indicate how quickly or severely a particular aspect of the climate is changing.
Physical risk	Physical risk refers to the potential harm from climate induced hazards to people, assets, infrastructure and ecosystems. These may arise from immediate impacts of sudden extreme weather events (Acute Physical Risks) or gradual, long-term changes (Chronic Physical Risks).

Term	Definition
Proposed Development components	The key components of the Proposed Development which may be impacted by climate hazards.
Resilience	The capacity of systems and its component to anticipate and cope with a hazardous event or trend or disturbance, and accommodate, or recover from the effects of a hazardous event or trend in a timely and efficient manner.
Risk	Risk is the outcome of the dynamic interaction between the vulnerability of Proposed Development components and the assessment of impact likelihood and impact consequence as result of climate hazards.
Sensitivity	Degree to which an element or a combination of elements shaping a system or species is affected, either adversely or beneficially, by climate variability or change.
Susceptibility	Helps in assessing how likely individuals, infrastructure and ecosystems are to be adversely impacted from climate-induced hazards.
Vulnerability	Propensity or predisposition to be adversely affected.

Definitions provided are adapted from the IPCC (Intergovernmental Panel on Climate Change) and ISO 14091:2021 glossaries, ensuring alignment with widely recognised standards on climate and risk terminology. These sources provide structured, precise language that supports global understanding and consistency in discussing climate-related issues.

INTRODUCTION

PURPOSE

To support the ES for the Proposed Development, this Climate Risk and Resilience Report (CRRR) considers how the Proposed Development may be vulnerable to climate change. The CRRR aligns with the EIA Regulations[1] which require that *"A description of the likely significant effects of the development on the environment resulting from, inter alia …the vulnerability of the Proposed Development to climate change"* is considered within the assessment.

The CRRR is a two phased approach, with the first phase (CRRR Vulnerability Assessment) considering the Proposed Development components which may be vulnerable to climate change (completed in this report). The second phase (CRRR Impact Risk Assessment) will accompany the ES and will assess the likelihood and consequence of potential climate related impacts which may affect the Proposed Development.

APPROACH

The CRRR reports on the outcomes of a Climate Change Risk Assessment (CCRA) to define the risk and resilience of the Proposed Development. A CCRA is a dynamic analysis that identifies and evaluates the impacts of physical climate change on the Proposed Development assets and operations. Physical climate risks are the damages and losses that occur due to the consequences of climate change. These physical risks result from acute events, such as flooding, wildfires and extreme heat, and chronic climatic changes like droughts and sea level rise.

The CRRR and CCRA has been developed using industry best practice, including IEMA *Environmental Impact Assessment (EIA) Guide to Climate Change Resilience and Adaptation*,[2] ISO 14090: Adaptation to climate change – Principles, requirements and guidelines[3] and ISO 14091 Adaptation to climate change - Guidelines on vulnerability, impacts and risk assessment.[4]

STRUCTURE

This appendix provides the methodology for the development of the CCRA (Section 0) and presents the climate data relevant to the Proposed Development. This climate data is used to consider how the changing climate will affect the Proposed Development, determining the vulnerability of the Proposed Development components. The final section outlines the next steps to be taken forward to support the ES.

[1] HM Government (2017). The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/571/contents.
[2] IEMA. (2020). EIA Guide to: Climate Change Resilience and Adaptation.
[3] ISO 14090:2019 Adaptation to climate change — Principles, requirements and guidelines. Available at: https://www.iso.org/standard/68507.html.
[4] ISO14090:2019 (2019) Adaptation to climate change – Principles, requirements and guidelines

METHDOLOGY

OVERVIEW

The CCRA Vulnerability Assessment follows a step-by-step methodology, which aims to scope in or out components and climate hazards from further assessment based on the vulnerability of Proposed Development components to the climate hazard. The steps for the CCRA Vulnerability Assessment are:

- Identification of climate change trends and associated hazards using observed climate data and future projections and defining the projected intensity of change;
- Determining the sensitivity of the Proposed Development components by their susceptibility to changes in function or form due to climate hazards;
- Determining whether the components are exposed to the climate hazards;
- Identifying existing resilience to climate change within control measures (known as adaptive capacity). This step is reviewed and updated as the design progresses;
- Determination of component vulnerability, as a function of sensitivity, exposure and the intensity of change of the hazard, and accounting for adaptive capacity; and
- Identification of potential impacts which may occur to the Proposed Development as a result of climate change.

The determination of the vulnerability of components will support the scoping decision. Outcomes of 'very low' and 'low' vulnerability will be scoped out of further assessment.

Outcomes of 'moderate', 'high' or 'very high' vulnerability will undergo further assessment which will be reported in the CCRA Risk Assessment delivered (where required) at the ES Stage. The CCRA Risk Assessment fulfils the final stages of the CCRA where an assessment of the likelihood of the impact occurring and the magnitude of the consequence of the impact are considered, using a risk based approach and take into account the implementation of the design control measures.

The findings derived from the CCRA provide a framework to support effective decision-making about the Proposed Development's design, construction, operation, maintenance, and decommissioning. The objective of using this approach is to ensure climate change has been considered within the design and planning of the Proposed Development.

CLIMATE TRENDS AND HAZARDS

To identify the climate trends and hazards, current and future baselines were established.

The current baseline is based on historic climate data obtained from the Met Office records[5] for the closest meteorological climate station to the site (Monks Wood climate station, approximately 7.5km

[5] Met Office (2023) UK Climate Averages. Available at: https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages

north of the Proposed Development), Met Office Regional Climate Profile for the England South region and the UK[6] and key findings from the latest State of the UK Climate Report.[7]

To establish the future baseline, the UKCP18 projections[8] have been used to analyse future changes in a range of climate variables that may be experienced at the location of the Proposed Development. The Climate Risk Indicators (CRI),[9] developed as part of the UK Climate Resilience Programme, have been used to obtain data for the future climate projections to inform the assessment. The CRI utilises the UKCP18 projections and allows for a range of climate related indicators to be assessed. The CRI data for the Local Authority area of Huntingdonshire have been used for this assessment.

The CCRA considers three time periods over the 21st century. These time periods have been guided by the design life of Proposed Development and the available data within UKCP18:

- **Current baseline** – the period 1991-2020 has been used to represent baseline or current conditions;
- **Short-term future** – the period 2021-2050 (2030s) has been used to understand short-term climate risks. This timeframe aligns with the construction phase which is anticipated to commence circa 2027 and be completed circa 2031;
- **Medium-term future** – the period 2041-2070 (2050s) has been used to understand medium-term climate risks. This will align with the operation of the Hospital; and
- **Long-term future** – the period 2071-2100 (2080s) has been used to assess long-term climate risks. This will align with the operation of the Proposed Development.

The future climate scenarios are based on Representative Concentration Pathways (RCPs) to model and Proposed Development future climate. The assessment considers RCP 8.5 as a high emissions pathway representing a potential future which is slow to transfer to low-carbon energy provision. By incorporating timeframes into the climate scenarios, the climate projections will span a representative range of plausible future conditions and provide a more useful representation of uncertainty.

Analysis of the baseline and future climate scenarios allows for climate trends to be identified. The level of confidence in the climate data is evaluated, by considering the likelihood and degree to which the climate trend is occurring and direction of the trend based on the best available climate science. The evaluation is based on the level of uncertainty in climate science, and the variation between the 10th and 90th percentiles of the climate projections. A rating of low, moderate, and high confidence is provided for each climate trend, based on the following criteria:

[6] Met Office (2016) UK Regional Climates. Available online at: https://www.metoffice.gov.uk/research/climate/maps-and-data/regional-climates/index. [Last accessed 01/05/2025].
[7] Kendon, M., Doherty, A., Holliis, D., Carlisle, E., Packman, S., McCarthy, M., Jevrejeva, S., Matthews, A., Williams, J., Garforth, J., and Sparks, T. (2024) State of the UK Climate 2023, International Journal of Climatology. Available online at: https://rmets.onlinelibrary.wiley.com/doi/10.1002/joc.8553. [Last accessed 01/05/2025].
[8] Met Office (2023) UKCP18 User Interface. Available online at: https://ukclimateprojections-ui.metoffice.gov.uk/ui/home. [Last accessed 01/05/2025].
[9] Nigel Arnell et. al. (2021). The Climate Risk Indicators. Available online at: https://uk-cri.org/. [Last accessed 01/05/2025].

- **High confidence:** Climate science has a good level of confidence in the modelled data, or the trend over all percentiles is the same.
- **Moderate confidence:** Climate science has a moderate level of confidence in the modelled data. The climate trends over the 10th and 90th percentiles suggest the climate event may or may not happen, but there is still a clear trend in the 50th percentile.
- **Low confidence:** Climate science is too uncertain to model the climate trend / projection data with any significant level of accuracy or there are limited to no projections available. The climate trends over the 10th and 90th percentiles suggest the climate event may or may not happen.

Associated climate hazards are identified from the climate trends. The hazard likelihood and intensity of the climate hazard occurring are rated on a five-point scale from very low to very high (**Table 1**). The rating is undertaken for each of the timeframes (2030s, 2050s and 2080s) to indicate the direction of travel of the climate hazard.

Table 1 – Criteria used to assess the climate hazard likelihood and intensity of change

Level	Qualitative description
Very high	The climate hazard occurs very frequently, and / or the intensity of change is significant / noticeable
High	The climate hazard or event occurs frequently, and / or the intensity of change is noticeable
Moderate	The climate hazard or event occurs occasionally, and / or the intensity of change may be noticed
Low	The climate hazard or event occurs very occasionally, and / or the intensity of change is unlikely to be noticed
Very low	The climate hazard or event rarely and / or the intensity of change is unlikely to be perceptible

PROPOSED DEVELOPMENT COMPONENTS: IDENTIFICATION AND VULNERABILITY

Key components of the Proposed Development to be assessed within the CRRR comprise those that have the potential to be substantially adversely impacted by climate change. For this Proposed Development, the components are:

- Construction workers;
- Construction and demolition works (incorporating the site, materials, plant and equipment);
- People Hub (comprising the ancillary office, research, admin and education facilities);
- New hospital buildings;
- Substation;
- Multistorey carpark;
- Surface parking, junction improvements, access roads and footpaths;
- Landscaped areas and open space; and
- Users of the Hospital (patients, visitors, employees, maintenance workers).

The vulnerability of Proposed Development components considers their exposure, sensitivity and existing adaptive capacity or resilience to climate hazards.

The exposure rating identifies if the climate hazard will interact with the Proposed Development components. For example, the components may be located below ground or within a building which will prevent them from being exposed to certain climate hazards. Exposure is based on a binary 'yes/no' basis.

The sensitivity rating is based on literature review and knowledge of the Proposed Development to indicate how susceptible the components are to the climate hazard. The rating, on a five-point scale, considers how much damage, or how altered the components may be to each climate hazard. **Table 2** provides the criteria for assessing sensitivity.

Table 2 - Criteria used to assess the sensitivity of Proposed Development components

Level	Qualitative description
Very high	The component is highly susceptible to be altered by the projected changes to climate (e.g., lose much of its original function and form).
High	The component is directly affected by the climate hazard and may lose some of its form and function.
Moderate	The component is able to tolerate some climatic conditions without being fully altered though remains susceptible to being altered to some extent.
Low	The component would be able to tolerate some climatic conditions with minimal impact to their function and form.
Very low	The component is not susceptible to be altered by the projected changes to climate as the climatic factors have little influence on the component.

Existing climate resilience or adaptation measures (referred to as adaptive capacity) are taken into account for each component. Such measures may include technological and engineering solutions (termed 'grey' measures), nature-based solutions ('green' measures), or soft measures which include policy, legal, social, management and financial measures. The known adaptive measures have been identified through documentation review and engagement with the Planning and Design Team. The adaptation measures are reviewed and updated as the Proposed Development design develops between the EIA Scoping stage and the EIA ES stage. A rating on a five-point scale is assigned to each component for each climate hazard. The rating, as demonstrated in **Table 3** is inverse to other criteria used, as components with high adaptive measures rate less than those with poor adaptive measures.

Table 3 - Criteria used to assess the effectiveness of design measures (adaptive capacity) of the Proposed Development components

Level	Qualitative description
Very high	The adaptation measures are very robust and are expected to reduce climate impacts to a tolerable level without the need for further measures.
High	The adaptation measures provide good adaptive capacity, no further design measures are required however monitoring and maintenance is required throughout the design life to review the level of effectiveness.

Moderate	The adaptation measures provide fair adaptive capacity, where some level of risk is tolerable and accepted.
Low	The adaptation measures provide a poor level of adaptive capacity, however the risk is accepted.
Very low	There are little to no adaptation measures and there is a high risk that the climate hazard will affect the function of the assets.

A vulnerability value is calculated for each time period considering the climate hazard, sensitivity adaptive capacity and exposure. Firstly, the sensitivity and adaptive capacity for each Proposed Development component is assessed using the matrix outlined in **Table 4.**

Table 4 - Risk matrix: Sensitivity x adaptive capacity

		Adaptive capacity				
		Very Low	**Very Low**	**Very Low**	**Very Low**	**Very Low**
Sensitivity	**Very Low**	Very Low	Very Low	Very Low	Low	Low
	Low	Very Low	Low	Low	Low	Moderate
	Moderate	Very Low	Low	Moderate	Moderate	Moderate
	High	Low	Low	Moderate	High	High
	Very High	Low	Moderate	Moderate	High	Very High

The output from the sensitivity x adaptive capacity matrix is then assessed against the climate hazard, using the matrix in **Table 5**.

Table 5 - Risk matrix: Raw vulnerability x hazard

		Raw vulnerability				
		Very Low	Low	Moderate	High	Very High
Hazard	Very High	Low	Moderate	Moderate	High	Very High
	High	Low	Low	Moderate	High	High
	Moderate	Very Low	Low	Moderate	Moderate	Moderate
	Low	Very Low	Low	Low	Low	Moderate
	Very Low	Very Low	Very Low	Very Low	Low	Low

As exposure is determined through a binary 'yes' / 'no' assessment, where Proposed Development components are not exposed to the climate hazard, the risk score is identified as not applicable.

The overall vulnerability rating is categorised through the five point scale for each Proposed Development component and climate hazard, as set out in **Table 6**.

Table 6 - Vulnerability categories

	Vulnerability category					
Vulnerability rating	Not applicable	Very low	Low	Moderate	High	Very high

For the purposes of the assessment, any risks with a rating of moderate, high or very high are considered to have the potential to result in material risks to the Proposed Development.

Where components with moderate, high or very high vulnerability are identified, these will be taken forward for the likelihood and consequence of impact assessment which will be presented at the ES stage of the EIA.

IMPACT IDENTIFICATION

Potential impacts which may occur to the Proposed Development components as a result of climate change are identified following the vulnerability assessment, for components and climate hazards which have moderate, high or very high vulnerability. Impacts are identified through literature review, knowledge of the Proposed Development and engagement with the Planning and Design Team.

The steps described in above have been undertaken as part of the CRRR Vulnerability Assessment to support the scoping report.

ASSESSMENT NEXT STEPS

Where moderate, high or very high vulnerabilities are identified in the CCRA Vulnerability Assessment, a further assessment (CCRA Risk Assessment) will be triggered and completed to support the ES. The methodology for the CCRA Risk Assessment builds on that already set out, and completes a likelihood and consequence impact and risk rating, as described below:

LIKELIHOOD AND CONSEQUENCE OF IMPACT

Completed to support the ES stage of the EIA, a risk assessment is undertaken by assessing the likelihood of the climate impact occurring and the magnitude of the consequence of the impact, which takes into account design control measures. The criteria used for assessing the likelihood of the climate change impact is contained in **Table 7.**

Table 7 - Criteria used to assess likelihood of climate change impact.

Level	Qualitative description
Very high	The impact is anticipated to occur frequently (approximately annually) or is almost sure to happen
High	The impact is anticipated to occur regularly (approximately once every ten years) or is likely to happen
Moderate	The impact is anticipated to occur limited times (approximately once every 30 years) or as likely it is unlikely to happen
Low	The impact is anticipated to occur occasionally (approximately once in 60 years) or is unlikely to happen
Very low	The impact is anticipated to occur rarely (approximately once every 100 years) or is almost sure to not happen

If the climate change impact was to occur, the consequence rating considers (where appropriate to the Proposed Development) health, safety and environmental (HSE) damage; structural integrity; and functionality aspects which may impact the Proposed Development components and operations. When assigning a rating, the consequence element which is considered most appropriate to the impact is used – it is not required for all criteria to be met. The consequence rating takes into account the known adaptive measures for the components. The criteria for assessing consequence are set out in **Table 8.**

Table 8 - Criteria used to assess the consequence of climate change impact.

Level	Qualitative description
Very high	Permanent and extensive damage. Disruption lasting substantially more than ten days as this will include unplanned and early renewal of large portions of the facility / infrastructure due to damage. Severe health effects and / or fatalities.
High	Facility / infrastructure damage. Disruption lasting more than three but less than ten days. Unplanned maintenance and early renewal of some portions of infrastructure or sub-assets. Severe health effects. Significant effect on the environment, requiring remediation.
Moderate	Limited facility / infrastructure damage with damage recoverable by maintenance or minor repair on a small portion of the infrastructure / assets. Disruption lasting more than one but less than three days. Adverse effects on health and / or the environment.
Low	Localised facility / infrastructure disruption. No permanent damage, minor restoration work required which may require facility closure lasting less than one day. Slight adverse health or environmental effects.
Very low	No facility / infrastructure damage, minimal adverse effects on health, safety and the environment. Facility doesn't shut down.

RISK RATING

The risk rating is calculated considering the vulnerability, impact likelihood impact consequence for each time period to give a five-point scale (very low, low, moderate, high, very high) for each Proposed Development component and climate impact.

Firstly, the impact likelihood and consequence are assessed using the matrix set out in **Table 9**.

Table 9 - Risk matrix: Impact likelihood x impact consequence / Impact x vulnerability

		Impact consequence / Impact				
		Very Low	Low	Moderate	High	Very High
Impact likelihood / Vulnerability	Very High	Low	Moderate	Moderate	High	Very High
	High	Low	Low	Moderate	High	High
	Moderate	Very Low	Low	Moderate	Moderate	Moderate
	Low	Very Low	Low	Low	Low	Moderate
	Very Low	Very Low	Very Low	Very Low	Low	Low

The output from the impact likelihood x impact consequence matrix is then assessed against the vulnerability rating, using the same matrix. The output of this provides the overall risk rating, as set out in **Table 10.**

Table 10 – Overall risk rating

	Risk category					
Risk rating	Not applicable	Very Low	Low	Moderate	High	Very High

Where impacts with moderate, high or very high risk are identified, additional measures to reduce the risk will be made in the CRRR Impact Risk Assessment to support the EIA ES stage.

CLIMATE CHANGE DATA

CURRENT CLIMATE

This section provides a summary of the climate trends over the past three decades (1991–2020) for temperature, precipitation (rain and snow), wind, humidity, and solar radiation. This provides an understanding of how recent climate trends have impacted the Proposed Development location. For context, the current baseline presents local, regional and national information.

UK CONTEXT

According to the latest State of the UK Climate Report the UK's climate is changing, with recent decades warmer, wetter, and sunnier than the 20th century on a national and local scale.[7] This report highlights that the UK land temperatures have warmed by 1.25 °C compared to 1961-1990, which is at a broadly consistent, though slightly higher, rate than the observed change in global mean land temperatures (1.15 °C). The key findings from the report are:

- Six of the 10 years in the most recent decade (2014–2023) have been in the top-ten warmest for the UK;
- 2023 was the second warmest year on record; the mean temperature for 2023 was 9.97 °C, which is 0.83 °C above the 1991–2020 long-term average;
- In terms of the highest maximum temperatures, the most recent decade (2014–2023) was 35.6 °C, 2.1 °C higher than 1991–2020 and 4.3 °C higher than 1961–1990, showing greater increases in extremes than when comparing the changes in annual means;
- The UK's average lowest minimum temperature for the most recent decade 2014–2023 was −14.6 °C, 0.9 °C higher than 1991–2020 and 4.4 °C higher than 1961–1990;
- The number of ‘warm days’ (daily maximum temperatures above 25 °C) have increased by 63% for the most recent decade (2014 – 2023) compared to 1961-1990 and ‘very hot days’ (daily maximum above 30 °C) have trebled, again showing greater increases in the trends for extreme events;
- The most recent decade (2014-2023) has had six fewer days of air frosts and 11 fewer days of ground frosts when compared with 1991-2020 and 17 fewer air frost and 28 fewer ground frost days when compared to 1961-1990;
- The UK’s annual precipitation shows large annual variability inherent to the UK climate, with some decadal variability. Two years in the most recent decade (2014–2023) have been in the top-ten wettest, and there has been a marked increase in winter rainfall in the last few decades coupled with a slight increase in autumn rainfall;
- The number of days of rain greater than or equal to 10 mm (‘very wet days’) for the UK during 2023 was 41 days. This was six days more than the 1991–2020 long term average. This suggests an increase in the number of days of widespread heavy rain in the last few decades;
- Summer rainfall has increased in the UK, but data takes into account a drier period through the 1970s to 1990s which also included the record dry summers. There is no obvious reducing trend in the occurrence of top-ten driest months, seasons or years in the last three decades;
- Caution is needed in the interpretation of rainfall trends due to the large annual and decadal variability in UK rainfall;
- Despite the warming climate, impactful snow events are still to be expected but their number and severity have declined since the 1960s;

- There is a downward trend of annual mean wind speeds, falling from ~18.5 km/h in 1970 to ~17 km/h in 2023; and
- The most recent two decades have seen fewer occurrences of max gust speeds above these thresholds than during the previous decades, particularly comparing the period before and after 2000. The number of station-days recording gusts exceeding 40/50/60 Kt in 2023 was broadly comparable to the period after 2000. However, there are considerable year-to-year and decadal variations in these series, and they are relatively short.

LOCAL CONTEXT

Rainfall and Temperature

Table 11 presents the long-term average (1991 – 2020) seasonal rainfall (mm), long term average, maximum and minimum seasonal temperature (°C), and the long-term seasonal sunshine (hours) for the local climate station (Monks Wood station), the region (England South), and the UK.[5] The summer season comprises the months of June, July and August. Winter season comprises the months of January, February and December.

Table 11 - Local, regional and national temperature, rainfall and sunshine baseline

Variable	Season	Location		
		Monks Wood [Climate Station]	England South [Region]	UK
Long term average seasonal rainfall	Summer	164.2 mm	187.1 mm	253.4 mm
	Winter	139.4 mm	224.0 mm	344.9 mm
Long term average mean seasonal temperature	Summer	16.5 °C	16.2 °C	14.6 °C
	Winter	4.7 °C	4.9 °C	4.1 °C
Long term average maximum temperature	Summer	21.7 °C	21.0 °C	18.9 °C
Long term average minimum temperature	Winter	1.5 °C	1.9 °C	1.3 °C
Long term seasonal sunshine	Summer	563.6 hours	590.5 hours	506.5 hours
	Winter	195.7 hours	189.9 hours	162.2 hours

The data shows that the local climate is drier in both summer and winter compared to the regional climate (by 22.9mm and 84.6mm respectively) and is significantly drier than the UK average (by 89.2mm and 205.5mm). The lower rainfall values in the region compared to the UK as a whole are likely to be attributed to the local topography, where lower altitudes attract less rainfall, and the fact the local area is relatively distant from the route of many Atlantic depressions. The lower rainfall values in the local area compared to the region are likely to be attributed to increasing shelter from rain-bearing south-westerly winds in the north-east of the region.

Local maximum summer temperatures are slightly higher than the regional values (by 0.7°C) and are 2.8°C warmer than the UK average. Winter minimum temperatures are 0.4°C cooler than the

regional average but 0.2°C warmer than the UK average. Temperature is influenced by altitude, with warmer temperatures at lower altitudes and proximity to the coast where milder winter temperature are typically experienced.

Snow

Snowfall is closely linked with temperature, with falls rarely occurring if the temperature is higher than 4°C. In the local area, snowfall is normally confined to the months including and between November to April and snow rarely lies outside the period from December to March. Within the region, the average number of days with snow falling each year ranges from under 20 in the south-east of the area to over 30 on higher ground. The average number of days with snow lying is less, varying from about 6 to 15 days.

Wind

The region is one of the more sheltered parts of the UK. In general, the strongest winds are associated with the passage of deep depressions in the north and west of the UK, closer to the track of Atlantic storms. The frequency and strength of these depressions is greatest in the winter half of the year, especially from December to February, and this is when mean speeds and gusts (short duration peak values) are strongest.

Humidity

The annual average relative humidity in the vicinity of the Proposed Development is 80-82%.

Flood Risk

Flood mapping data for the Proposed Development indicates that the site is located within Flood Zone 1 meaning there is a low probability of flooding from rivers and the sea.[10]

Surface water mapping indicates that the majority of the site has a low chance of flooding from surface water, although there are sporadic areas where there is a medium and high chance of flooding.[11]

Flooding from groundwater is unlikely within the area.

Past Major Events

Cambridgeshire roads damaged by extreme weather events (November 2024)

Extreme weather events caused roads to be damaged more quickly than expected leaving some in need of major reconstruction. Drivers in Cambridgeshire reported the rapid development of cracks and feared the extent of the degradation could cause a fatality.[12]

[10] GOV.UK (2025). Flood risk information. Available at: https://flood-map-for-planning.service.gov.uk/location [Last accessed 01/05/2025].
[11] GOV.UK (2025). Surface water flooding mapping. Available at: https://check-long-term-flood-risk.service.gov.uk/risk [Last accessed 01/05/2025].
[12] BBC News (2022). Cambridgeshire roads damaged by extreme weather events, says council. Available at: https://www.bbc.co.uk/news/uk-england-cambridgeshire-63799360 [Last accessed 01/05/2025].

Heavy rain and flooding (October 2024)

Huntingdonshire District Council reported flooding in areas around the River Great Ouse near Wyboston, Eaton Socon and St Neots in Cambridgeshire. Pathways through Peterborough's Nene Park were noted as inaccessible due to flooding. Bus services in Peterborough and Cambridgeshire suffered sever disruption and delays.[13]

Heatwave (September 2023)

In early September the UK experienced a significant heatwave with daily maximum temperatures reaching 31 to 32°C across south-east England. On 10th, Faversham (Kent) recorded 33.5°C, making this, unusually, the hottest day of the year. For most of the UK, this was the most significant warm, dry and sunny spell of settled weather since June. However, the heat and humidity made uncomfortable conditions for the elderly and vulnerable, and difficult conditions for sleeping at night. This was followed by a series of lightning strikes in the area and flash flooding from the accompanying downpours.[14]

Unprecedented extreme heatwave (July 2022)

The UK experienced a brief but unprecedented extreme heatwave from 16 to 19 July 2022, as hot air moved north from the near-continent, with extreme temperatures recorded on both 18th and 19th. On 19th, 39.9°C was recorded at Wittering (Cambridgeshire) and a new UK and England temperature record was set by a margin of 1.6°C (40.3°C), and multiple stations across England also exceeded 40°C. This heatwave marked a milestone in UK climate history, with 40°C being recorded for the first time in the UK. The Met Office issued its first red warning for extreme heat since the Extreme Heat National Weather Warning Service was introduced in June 2021. The UK Health Security Agency and Met Office also issued a level 4 alert for the first time since the heatwave plan was introduced for England in 2004, resulting in the government declaring a national emergency. A red warning means adverse health effects are expected not just to those most vulnerable. Network rail issued a 'do not travel' warning and rail services were severely disrupted due to tracks buckling and overhead cables sagging. The heat brought challenging conditions for the NHS with a spike in 999 calls, and care services supporting the elderly and vulnerable were put under increased stress, with a likely increase in heat related deaths. There were several fatalities associated with open water swimming. Several fire services declared major incidents after multiple fires broke out.[15]

[13] BBC News (2024). Heavy rain and flooding causes disruption in city. Available at: https://www.bbc.co.uk/news/articles/c3wp552g6vgo [Last accessed 01/05/2025].
[14] Met Office (2023). Heatwave, September 2023. Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/interesting/2023/2023_05_september_heatwave.pdf [Last accessed 01/05/2025].
[15] Met Office (2022). Unprecedented extreme heatwave, July 2022. Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/interesting/2022/2022_03_july_heatwave_v1.pdf [Last accessed 01/05/2025].

FUTURE CLIMATE PROJECTIONS

Climate change is projected to lead to warmer wetter winters and hotter drier summers, with an increase in the intensity and frequency of extreme events such as heatwaves, drought, extreme rainfall leading to flash flooding, storms and wind events. The information presented below illustrates how the climate may evolve at the Proposed Development location by the end of the century.

Rainfall and Temperature

Table 12 provides an overview of current and projected summer and winter temperature and rainfall for the for the Local Authority of Huntingdonshire, the nearest land data. Data is presented for 50th percentile with the 10th and 90th percentile values shown in brackets.

Table 12 - Temperature and rainfall climate projection data (anomalies)

Climate Variable	Model Reference (1981-2010)	Current Baseline (1991-2020)	RCP 8.5 50th percentile (10th – 90th)			Direction of climate trend
			2030s	2050s	2080s	
Average summer temperature (°C change from model reference)	16.2 °C	16.5 °C	**+1.5 °C** (+0.6 °C to +2.3 °C)	**+2.6 °C** (+1.3 °C to +4.0 °C)	**+5.0 °C** (+2.7 °C to +7.4 °C)	↑
Average winter temperature (°C change from model reference)	4.3 °C	4.7 °C	**+1.0 °C** (+0.3 °C to +1.8 °C)	**+1.7 °C** (+0.6°C to +2.9 °C)	**+3.1 °C** (+1.3 °C to +5.0 °C)	↑
Min winter temperature (°C change from model reference)	1.1 °C	1.5 °C	**+1.0 °C** (+0.2 °C to +1.9 °C)	**+1.8 °C** (+0.5 °C to +3.2 °C)	**+3.2 °C** (+1.2 °C to +5.5 °C)	↑
Max summer temperature (°C change from model reference)	21.5 °C	21.7 °C	**+1.7 °C** (+0.5 °C to +2.8 °C)	**+2.9 °C** (+1.2 °C to +4.6 °C)	**+5.6 °C** (+2.7 °C to +8.6 °C)	↑
Average summer rainfall (% change from model reference)	154.1 mm	164.2 mm	**-7.8 %** (-23.4 % to +6.7 %)	**-16.9 %** (-37.1 % to +1.8 %)	**-32.5 %** (-56.7 % to -7.0 %)	↓
Average winter rainfall (% change from model reference)	129.1 mm	139.4 mm	**+5.7 %** (-2.6 % to +15.3 %)	**+9.8 %** (-2.2 % to +24.4 %)	**+20.8 %** (+0.9 % to +45.2 %)	↑

Indicators of climate risk are shown in **Table 13**. These provide an indication of sector specific thresholds which are projected to change in the future. The indicators presented in **Table 13** are provided against the model reference period of 1981-2010. These indicators are unavailable for the current baseline period (1991-2020). Data is presented for 50th percentile with the 10th and 90th percentile values shown in brackets.

Table 13 - Future projections (absolute) of climate risk indicators

Climate Variable	Model Reference (1981-2010)	RCP 8.5			Direction of climate trend
		2030s	2050s	2080s	
Met office heatwave (events per year)	1.1	**2.3** (1.4 to 3.4)	**3.8** (2.0 to 5.3)	**5.1** (3.5 to 6.6)	↑
Road accident risk (days per year)	48.8	**35.4** (26.9 to 44.4)	**27.0** (17.4 to 39.0)	**16.1** (7.3 to 31.0)	↓
Road melt risk (days per year)	19.1	**34.5** (24.2 to 47.1)	**50.7** (31.7 to 72.7)	**83.3** (50.2 to 112.6)	↑
Heat stress (days per year)	0.2	**1.2** (0.4 to 2.6)	**3.7** (1.3 to 8.0)	**14.2** (4.5 to 32.4)	↑
Wildfire events (days per year)	35.5	**50.8** (35.4 to 68.3)	**64.7** (40.6 to 91.3)	**92.4** (54.6 to 126.0)	↑
Regional summer soil moisture (% change)	0	**-13.4** (-24.6 to -7.0)	**-20.7** (-31.1 to -16.8)	**-29.8** (-39.4 to -24.7)	↓
Regional winter soil moisture (% change)	0	**-5.9** (-10.9 to +1.3)	**-8.0** (-14.6 to -1.2)	**-10.8** (-16.0 to -3.3)	↓
SPEI drought (proportion of time)	0.1	0.1 (0.1 to 0.2)	0.2 (0.1 to 0.3)	0.3 (0.1 to 0.5)	↑

Notes:

Climate Variable	Model Reference (1981-2010)	RCP 8.5			Direction of climate trend
		2030s	2050s	2080s	
Heatwave: A UK heatwave threshold is met when a location records a period of at least three consecutive days with daily maximum temperatures meeting or exceeding the heatwave temperature threshold. The threshold for the local area is 28°C. **Road accident risk:** Days with minimum temperature below 0°C. **Road melt risk:** Days with maximum temperature above 25°C. **Heat stress:** Days with shade Wet Bulb Globe Temperature (WBGT) above 25°C. **Wildfire:** Days with Met Office Wildfire Index at the Very High Fire Severity level or above **Regional soil moisture:** change in average seasonal soil moisture content. Data only available at regional scale: South-East England **SPEI drought:** Number of months with a Standardised Precipitation Evaporation Index (calculated from 6-month accumulated rainfall minus potential evaporation) less than -1.5.					

Snow

With regards to future changes, rising winter temperatures are likely to reduce the amount of precipitation that falls as snow in winter. Snowfall data is unavailable for the probabilistic projections (25km), however both the regional (12km) and the local (2.2km) show a decrease in both falling and lying snow across the UK for the period of 2061-2080 relative to the 1981-2000 baseline.

Wind

UKCP18 depicts a wide spread of future changes in mean surface wind speed, however, there is large uncertainty in projected changes in circulation over the UK and natural climate variability contributes to much of this uncertainty. It is therefore difficult to represent regional extreme winds and gusts within regional climate models.

Central estimates of change in mean wind speed for the 2050s are small in all ensemble runs (<0.2ms-1). A wind speed of 0.2ms-1 (approximately 0.4 knots) is small compared with the typical magnitude of summer mean wind speed of about 3.6–5.1ms-1 (7 – 10 knots) over much of the UK. Seasonal changes at individual locations across the UK lie within the range of –15% to +10%.

Studies relating to future projections of storms suggest that climate driven storm changes are less distinct in the northern than southern hemisphere.[16] However, such is the wide range of inter-model variation, robust projections of changes in storm track are not yet possible and there is low confidence in the direction of future changes in the frequency, duration or intensity of storms affecting the UK.

Humidity

Relative humidity is a function of air temperatures and water vapour content. Changes in relative summer humidity are expected to change by -3.17% in the 2030s and -6.15% in the 2050s. In winter, the variation is marginal with a slight change by -0.31% in the 2030's and -0.37% in the 2050s.[17]

Flood Risk

Long term flood risk data from the Environment Agency indicates that the yearly chance of flooding between 2036 and 2069 is very low.

The yearly chance of surface water flooding across the site between 2040 and 2060 is predominately classified as a low chance, with sporadic areas where there is a medium and high chance of yearly flooding. In comparison to the current conditions, the change is negligible.[11]

[16] Belcher, S., Slingo, J., Scaife, A., McCarthy, M., Saulter, A., McBeath, K., . . . Parry, S. (2014). The recent storms and floods in the UK. Met Office , 29

[17] Met Office (2023) UKCP18 User Interface. Available at: https://ukclimateprojections-ui.metoffice.gov.uk/ui/home [Last accessed 01/05/2025].

Shrink Swell

Clay soils are susceptible to shrinking and swelling, and the associated change in volume caused ground movement and subsidence. Clay soils are found in many areas of the UK, but are most common in the London area and in the south-east of England.

Data from the British Geological Society (BGS) which utilises climate projection data from UKCP09 maps the likelihood that foundations will be affected by increased clay shrink-swell due to climate change. The data indicates that in the 2030s there is a possible risk, increasing to a probable risk that foundations will be affected across the 2050s and 2080s.[18]

[18] British Geological Survey (2020). Clay shrink-swell index (Online). Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html?layer=BGSGeoClimateOpen&_ga=2.39225955.1928633744.1726583012-726430774.1726583010 (Accessed 27/02/25)

CLIMATE TRENDS

Based on the current climate baseline and the future climate projections, the climate trends and hazards can be summarised as shown in **Table 14**. The level of confidence in the climate science and projection data is provided for each time period.

Table 14 - Climate trends

Climate Parameter	Climate Trend Description	Trend Confidence			Climate Hazard
		2030	2050	2080	
Temperature	Increase in average summer temperatures	High	High	High	Increased growing season and vegetation growth
	Increase in the frequency and intensity of hot days and prolonged hot spell events	High	High	High	Hotter days and nights
		High	High	High	Increase intensity of sun glare and UV
	Increasing frequency and intensity of hot and dry conditions	High	High	High	Wildfire
	Extreme cold spell events	High	High	High	Cold days
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Moderate	Moderate	Moderate	Ground movement and instability
Humidity	Changes in relative humidity	Low	Low	Low	Decrease in relative humidity (summer)
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	High	High	High	Increase in the number of heat stress days
Precipitation	Decrease in summer rainfall and/or prolonged dry spells	Moderate	Moderate	High	Low soil moisture content and drought -

Climate Parameter	Climate Trend Description	Trend Confidence			Climate Hazard
		2030	2050	2080	
					soil hardening, cracking and destabilisation
		Moderate	Moderate	High	Reduced water availability
	Increased frequency, volume and/or duration of extreme precipitation events	Moderate	Moderate	High	Heavy rainfall
		Moderate	Moderate	High	Flooding (fluvial, pluvial and standing water)
Wind	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Low	Low	Low	Lightning and lightning strikes
		Low	Low	Low	High winds

VUNERABILITY ASSESSMENT

The vulnerability assessment is presented in **Table 15**. The key findings of the assessment are summarised here.

Climate Hazard Summary

Using the future climate projections, the climate hazard ratings comprise mainly of very low and low ratings in the 2030s, moderate climate hazard ratings were assigned to “Cold days”; “Reduced water availability” and “Ground movement and instability”.

In the 2050s, moderate climate hazard ratings have also been assigned to “Hotter days and nights”; “Increase intensity of sun glare and UV”; Cold day”; “Increase in the number of heat stress days”; “Low soil moisture content and drought - soil hardening, cracking and destabilisation” and “Heavy rainfall”. “Reduced water availability” and “Ground movement and instability” have increased from moderate to high in the 2050s.

Climate hazards with a rating of moderate in the 2080s comprise of “Increased growing season and vegetation growth”; “Wildfire”; “Decrease in relative humidity (summer and winter)”; “Low soil moisture content and drought - soil hardening, cracking and destabilisation”; “Flooding (fluvial, pluvial and standing water)”; “Lightning and lightning strikes” and “High winds”. Climate hazards with a high rating in the 2080s comprise of “Hotter days and nights”; “Increase intensity of sun glare and UV”; “Increase in the number of heat stress days”; “Heavy rainfall” and “Ground movement and instability”. “Reduced water availability” has increased to a very high rating in the 2080s.

Sensitivity Summary

Using literature review and professional judgement to consider the sensitivity of the Proposed Development components, and their susceptibility to loosing form or function from the climate hazards, **Table 15** summarises those with moderate, high and very high sensitivity to climate

Table 15 - Proposed Development components with moderate and high sensitivity to climate hazards

Proposed Development component	Moderate sensitivity	High sensitivity	Very high sensitivity
Construction workers	Increase intensity of sun glare and UV Cold days Heavy rainfall High winds	Hotter days and nights Increase in the number of heat stress days Reduced water availability Flooding (fluvial, pluvial and standing water)	Wildfire
Construction and demolition works (incorporating the site, materials, plant and equipment)	Hotter days and nights Low soil moisture content and drought - soil hardening, cracking and destabilisation Reduced water availability Heavy rainfall	Flooding (fluvial, pluvial and standing water)	Wildfire

Proposed Development component	Moderate sensitivity	High sensitivity	Very high sensitivity
	Ground movement and instability Lightning and lightning strikes High winds		
People Hub (comprising the ancillary office, research, admin and education facilities)	Hotter days and nights Low soil moisture content and drought - soil hardening, cracking and destabilisation Reduced water availability Lightning and lightning strikes High winds	Flooding (fluvial, pluvial and standing water) Ground movement and instability	Wildfire
New hospital buildings	Hotter days and nights Low soil moisture content and drought - soil hardening, cracking and destabilisation High winds	Flooding (fluvial, pluvial and standing water) Ground movement and instability Lightning and lightning strikes	Wildfire Reduced water availability
Substation	Hotter days and nights Lightning and lightning strikes	Flooding (fluvial, pluvial and standing water)	Wildfire
Multistorey carpark	Hotter days and nights Low soil moisture content and drought - soil hardening, cracking and destabilisation Flooding (fluvial, pluvial and standing water) Ground movement and instability High winds	Wildfire	None identified
Surface parking, junction improvements, access roads and footpaths	Hotter days and nights Low soil moisture content and drought - soil hardening, cracking and destabilisation Flooding (fluvial, pluvial and standing water) Ground movement and instability	Wildfire	None identified
Landscaped areas and open space	Hotter days and nights Reduced water availability	Wildfire	None identified

Proposed Development component	Moderate sensitivity	High sensitivity	Very high sensitivity
	Flooding (fluvial, pluvial and standing water)		
Users of the Hospital (patients, visitors, employees, maintenance workers)	Increase intensity of sun glare and UV Low soil moisture content and drought - soil hardening, cracking and destabilisation Flooding (fluvial, pluvial and standing water) Ground movement and instability	Hotter days and nights Increase in the number of heat stress days Reduced water availability High winds	Wildfire

Design measures

At the current stage of the design, committed design measures which build resilience to climate change are reasonably limited and typically have not been assigned high level of effectiveness in the vulnerability assessment. This will be re-assessed as the design progresses. Measures identified to date include:

- A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks;
- Health and safety protocols will be incorporated into working practices;
- Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust;
- A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features;
- Landscape management plan to be undertaken at the ES stage;
- Existing emergency protocols to be adopted for the new hospital; and
- Potable water from mains supply.

Vulnerability Assessment Summary

Based on the risk matrix and methodology set out, the Vulnerability Assessment identified:

- 14 moderate vulnerabilities were identified in the 2030s with no high or very high vulnerabilities;
- 25 moderate vulnerabilities were identified in the 2050s, and three high vulnerability ratings. The high vulnerabilities related to ground movement and instability impacting the People Hub and the New Hospital Buildings and reduced water availability impacting the New Hospital Buildings. There were no very high vulnerabilities in the 2050s; and
- 40 moderate vulnerabilities were identified in the 2080s, four high vulnerabilities and one very high vulnerability. The high vulnerabilities related to ground movement and instability impacting the People Hub and the New Hospital Buildings, hotter days and night and increase in the number of heat stress days impacting the Users of the Hospital. The very high vulnerability related to reduced water availability impacting the New Hospital Buildings.

Table 16 - Vulnerability assessment

Proposed Development Component	Climate Trend	Climate Hazard	Hazard 2030s	Hazard 2050s	Hazard 2080s	Exposure	Sensitivity	Design measures	Effectiveness of measures	Vulnerability 2030s	Vulnerability 2050s	Vulnerability 2080s	Potential Impact (identified for moderate, high and very high vulnerabilities)
Construction workers	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	n/a	n/a	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	n/a	n/a	Yes	High	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
		Increase intensity of sun glare and UV	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	n/a	n/a	Yes	Very High	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Extreme cold spell events	Cold days	Moderate	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	n/a	n/a	Yes	Very Low	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	n/a	n/a	Yes	High	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	n/a	n/a	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
		Reduced water availability	Moderate	n/a	n/a	Yes	High	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
		Flooding (fluvial, pluvial and standing water)	Low	n/a	n/a	Yes	High	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	n/a	n/a	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	n/a	n/a	Yes	Low	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
		High winds	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks. Health and safety protocols will be incorporated into working practices.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
Construction and demolition works (incorporating the site, materials, plant and equipment)	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	n/a	n/a	Yes	Very Low	None identified at current design stage	Very Low	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
		Increase intensity of sun glare and UV	Low	n/a	n/a	Yes	Very Low	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	n/a	n/a	Yes	Very High	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Extreme cold spell events	Cold days	Moderate	n/a	n/a	Yes	Low	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	n/a	n/a	Yes	Very Low		Very Low	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	

Proposed Development Component	Climate Trend	Climate Hazard	Hazard 2030s	Hazard 2050s	Hazard 2080s	Exposure	Sensitivity	Design measures	Effectiveness of measures	Vulnerability 2030s	Vulnerability 2050s	Vulnerability 2080s	Potential Impact (identified for moderate, high and very high vulnerabilities)
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	n/a	n/a	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
		Reduced water availability	Moderate	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
		Flooding (fluvial, pluvial and standing water)	Low	n/a	n/a	Yes	High	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
		High winds	Low	n/a	n/a	Yes	Moderate	A CEMP will be produced prior to the construction phase aligning with CDM regulations and included management of weather related risks.	Very High	**Very Low**	**0 / Not Applicable**	**0 / Not Applicable**	
People Hub (comprising the ancillary office, research, admin and education facilities)	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	Low	Moderate	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	Moderate	High	Yes	Moderate		Very Low	**Low**	**Moderate**	**Moderate**	Increased requirement for cooling and ventilation equipment Thermal expansion of building components causing damage
		Increase intensity of sun glare and UV	Low	Moderate	High	Yes	Low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Low**	**Low**	**Low**	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	Low	Moderate	Yes	Very High		Very Low	**Moderate**	**Moderate**	**Moderate**	Critical damage to buildings from wildfire.
	Extreme cold spell events	Cold days	Moderate	Moderate	Low	Yes	Low		Very Low	**Moderate**	**Moderate**	**Low**	Increased brittleness and fragility of building components Damage from snow and ice build up
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	Low	Moderate	Yes	Very Low		Very Low	**Very Low**	**Low**	**Low**	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	Moderate	High	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	Moderate	Moderate	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Low**	**Moderate**	**Moderate**	Damage to buildings from ground movement and shrinking of clay
		Reduced water availability	Moderate	High	Very High	Yes	Moderate		Very Low	**Moderate**	**Moderate**	**Moderate**	Less water available for fire suppression and non-potable water uses
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	Moderate	High	Yes	Low	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	**Low**	**Low**	**Low**	
		Flooding (fluvial, pluvial and standing water)	Low	Low	Moderate	Yes	High	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	**Low**	**Low**	**Moderate**	Damage to building and equipment as a result of water ingress Access and egress impeded by flood water
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	High	High	Yes	High	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Moderate**	**High**	**High**	Damage to buildings from ground movement and shrinking of clay
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	Low	Moderate	Yes	Moderate		Very Low	**Low**	**Low**	**Moderate**	Power outages from lightning strike Damage to electrical equipment from power surge Increased risk of fire
		High winds	Low	Low	Moderate	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Low**	**Low**	**Moderate**	Building cladding or other fabric dislodged from high winds Damage to buildings from wind blow debris

Proposed Development Component	Climate Trend	Climate Hazard	Hazard 2030s	Hazard 2050s	Hazard 2080s	Exposure	Sensitivity	Design measures	Effectiveness of measures	Vulnerability 2030s	Vulnerability 2050s	Vulnerability 2080s	Potential Impact (identified for moderate, high and very high vulnerabilities)
New hospital buildings	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	Low	Moderate	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	Moderate	High	Yes	Moderate		Very Low	Low	Moderate	Moderate	Increased requirement for cooling and ventilation equipment Thermal expansion of building components causing damage
		Increase intensity of sun glare and UV	Low	Moderate	High	Yes	Low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Low	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	Low	Moderate	Yes	Very High		Very Low	Moderate	Moderate	Moderate	Critical damage to buildings from wildfire.
	Extreme cold spell events	Cold days	Moderate	Moderate	Low	Yes	Low		Very Low	Moderate	Moderate	Low	Increased brittleness and fragility of building components Damage from snow and ice build up
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	Low	Moderate	Yes	Very Low		Very Low	Very Low	Low	Low	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	Moderate	High	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	Moderate	Moderate	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Moderate	Moderate	Damage to buildings from ground movement and shrinking of clay
		Reduced water availability	Moderate	High	Very High	Yes	Very High		Very Low	Moderate	High	Very High	Less water available for fire suppression and non-potable water uses
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	Moderate	High	Yes	Low	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	Low	Low	Low	
		Flooding (fluvial, pluvial and standing water)	Low	Low	Moderate	Yes	High	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	Low	Low	Moderate	Damage to building and equipment as a result of water ingress Access and egress impeded by flood water
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	High	High	Yes	High	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Moderate	High	High	Damage to buildings from ground movement and shrinking of clay
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	Low	Moderate	Yes	High		Very Low	Low	Low	Moderate	Power outages from lightning strike Damage to electrical equipment from power surge Increased risk of fire
		High winds	Low	Low	Moderate	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Moderate	Building cladding or other fabric dislodged from high winds Damage to buildings from wind blow debris
Substation	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	Low	Moderate	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	Moderate	High	Yes	Moderate		Very Low	Low	Moderate	Moderate	Overheating and potential failure of electrical equipment
		Increase intensity of sun glare and UV	Low	Moderate	High	Yes	Very low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Low	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	Low	Moderate	Yes	Very High		Very Low	Moderate	Moderate	Moderate	Critical damage to substation and power loss
	Extreme cold spell events	Cold days	Moderate	Moderate	Low	Yes	Very low		Very Low	Low	Low	Low	
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	Low	Moderate	Yes	Very Low		Very Low	Very Low	Low	Low	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	Moderate	High	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	Moderate	Moderate	Yes	Low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Low	

Proposed Development Component	Climate Trend	Climate Hazard	Hazard 2030s	Hazard 2050s	Hazard 2080s	Exposure	Sensitivity	Design measures	Effectiveness of measures	Vulnerability 2030s	Vulnerability 2050s	Vulnerability 2080s	Potential Impact (identified for moderate, high and very high vulnerabilities)
		Reduced water availability	Moderate	High	Very High	Yes	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	Moderate	High	Yes	Low	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	Low	Low	Low	
		Flooding (fluvial, pluvial and standing water)	Low	Low	Moderate	Yes	High	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	Low	Low	Moderate	Damage to substation and electrical equipment as a result of water ingress
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	High	High	Yes	Low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Low	
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	Low	Moderate	Yes	Moderate		Very Low	Low	Low	Moderate	Damage to substation equipment and power loss
		High winds	Low	Low	Moderate	Yes	Low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Low	Damage to substation and electrical infrastructure from wind blow debris
Multistorey carpark	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	Low	Moderate	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	Moderate	High	Yes	Moderate		Very Low	Low	Moderate	Moderate	Deformation of asphalt from high temperatures
		Increase intensity of sun glare and UV	Low	Moderate	High	Yes	Very low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Low	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	Low	Moderate	Yes	High		Very Low	Low	Low	Moderate	Deformation of asphalt from fire
	Extreme cold spell events	Cold days	Moderate	Moderate	Low	Yes	Very low		Very Low	Low	Low	Low	
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	Low	Moderate	Yes	Very Low		Very Low	Very Low	Low	Low	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	Moderate	High	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	Moderate	Moderate	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Moderate	Moderate	Damage to multistorey car park from ground movement and shrinking of clay
		Reduced water availability	Moderate	High	Very High	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	Moderate	High	Yes	Low	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	Low	Low	Low	
		Flooding (fluvial, pluvial and standing water)	Low	Low	Moderate	Yes	Moderate	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	Low	Low	Moderate	Access and egress impeded by flood water
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	High	High	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Moderate	Moderate	Moderate	Damage to multistorey car park from ground movement and shrinking of clay
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	Low	Moderate	Yes	Very low		Very Low	Low	Low	Low	
		High winds	Low	Low	Moderate	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	Low	Low	Moderate	Cladding or other fabric dislodged from high winds Damage to multistorey carpark from wind blow debris
Surface parking, junction improvements, access roads and footpaths	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	Low	Moderate	No	n/a	n/a	n/a	0 / Not Applicable	0 / Not Applicable	0 / Not Applicable	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	Moderate	High	Yes	Moderate		Very Low	Low	Moderate	Moderate	Deformation of asphalt from high temperatures

Proposed Development Component	Climate Trend	Climate Hazard	Hazard 2030s	Hazard 2050s	Hazard 2080s	Exposure	Sensitivity	Design measures	Effectiveness of measures	Vulnerability 2030s	Vulnerability 2050s	Vulnerability 2080s	Potential Impact (identified for moderate, high and very high vulnerabilities)
		Increase intensity of sun glare and UV	Low	Moderate	High	Yes	Very low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Low**	**Low**	**Low**	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	Low	Moderate	Yes	High		Very Low	**Low**	**Low**	**Moderate**	Deformation of asphalt from fire
	Extreme cold spell events	Cold days	Moderate	Moderate	Low	Yes	Very low		Very Low	**Low**	**Low**	**Low**	
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	Low	Moderate	Yes	Very Low		Very Low	**Very Low**	**Low**	**Low**	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	Moderate	High	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	Moderate	Moderate	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Low**	**Moderate**	**Moderate**	Deformation of car park from ground movement and shrinking of clay
		Reduced water availability	Moderate	High	Very High	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	Moderate	High	Yes	Low	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	**Low**	**Low**	**Low**	
		Flooding (fluvial, pluvial and standing water)	Low	Low	Moderate	Yes	Moderate	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	**Low**	**Low**	**Moderate**	Access and egress impeded by flood water
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	High	High	Yes	Moderate	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Moderate**	**Moderate**	**Moderate**	Deformation of car park from ground movement and shrinking of clay
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	Low	Moderate	Yes	Very low		Very Low	**Low**	**Low**	**Low**	
		High winds	Low	Low	Moderate	Yes	Very low	Operational maintenance plans for the upkeep of the buildings implemented by the NHS Foundation Trust	Low	**Low**	**Low**	**Low**	
Landscaped areas and open space	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	Low	Moderate	Yes	Very Low	Landscape management plan to be undertaken at the ES stage	Low	**Very Low**	**Low**	**Low**	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	Moderate	High	Yes	Moderate	Landscape management plan to be undertaken at the ES stage	Low	**Low**	**Moderate**	**Moderate**	Species used in green infrastructure may not be able to withstand increased temperatures
		Increase intensity of sun glare and UV	Low	Moderate	High	Yes	Low	Landscape management plan to be undertaken at the ES stage	Low	**Low**	**Low**	**Low**	
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	Low	Moderate	Yes	High		Very Low	**Low**	**Low**	**Moderate**	Destruction of areas of green infrastructure and damage to habitats from wildfire.
	Extreme cold spell events	Cold days	Moderate	Moderate	Low	Yes	Very low	Landscape management plan to be undertaken at the ES stage	Low	**Low**	**Low**	**Low**	
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	Low	Moderate	Yes	Very Low		Very Low	**Very Low**	**Low**	**Low**	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	Moderate	High	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	Moderate	Moderate	Yes	Very Low	Landscape management plan to be undertaken at the ES stage	Low	**Low**	**Low**	**Low**	
		Reduced water availability	Moderate	High	Very High	Yes	Moderate	Landscape management plan to be undertaken at the ES stage	Low	**Moderate**	**Moderate**	**Moderate**	Planting regime fail due to reduced water availability.
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	Moderate	High	Yes	Very Low	Landscape management plan to be undertaken at the ES stage	Low	**Low**	**Low**	**Low**	

Proposed Development Component	Climate Trend	Climate Hazard	Hazard 2030s	Hazard 2050s	Hazard 2080s	Exposure	Sensitivity	Design measures	Effectiveness of measures	Vulnerability 2030s	Vulnerability 2050s	Vulnerability 2080s	Potential Impact (identified for moderate, high and very high vulnerabilities)
Users of the Hospital (patients, visitors, employees, maintenance workers)		Flooding (fluvial, pluvial and standing water)	Low	Low	Moderate	Yes	Moderate	Landscape management plan to be undertaken at the ES stage	Low	**Low**	**Low**	**Moderate**	Flooding will render them unusable, destruction of habitats
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	High	High	Yes	Very Low	Landscape management plan to be undertaken at the ES stage	Low	**Low**	**Low**	**Low**	
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	Low	Moderate	Yes	Very Low		Very Low	**Low**	**Low**	**Low**	
		High winds	Low	Low	Moderate	Yes	Low		Very Low	**Low**	**Low**	**Moderate**	Plants uprooted or branches lost from high winds
	Increase in average summer temperatures	Increased growing season and vegetation growth	Very Low	Low	Moderate	No	n/a	n/a	n/a	**0 / Not Applicable**	**0 / Not Applicable**	**0 / Not Applicable**	
	Increase in the frequency and intensity of hot days and prolonged hot spell events	Hotter days and nights	Low	Moderate	High	Yes	High		Very Low	**Low**	**Moderate**	**High**	Comfort levels for employees, patients, visitors etc become untenable. Health and wellbeing impacts
		Increase intensity of sun glare and UV	Low	Moderate	High	Yes	Moderate		Very Low	**Low**	**Moderate**	**Moderate**	Comfort levels for employees, patients, visitors etc become untenable. Health and wellbeing impacts
	Increasing frequency and intensity of hot and dry conditions	Wildfire	Low	Low	Moderate	Yes	Very High	Existing emergency protocols to be adopted for the new hospital	Very high	**Low**	**Low**	**Low**	
	Extreme cold spell events	Cold days	Moderate	Moderate	Low	Yes	Low		Very Low	**Moderate**	**Moderate**	**Low**	Comfort levels for employees, patients, visitors etc become untenable. Health and wellbeing impacts
	Changes in relative humidity	Decrease in relative humidity (summer and winter)	Very Low	Low	Moderate	Yes	Very Low		Very Low	**Very Low**	**Low**	**Low**	
	Increase in frequency and intensity of hot days and increase in relative humidity (wet bulb temperature)	Increase in the number of heat stress days	Low	Moderate	High	Yes	High		Very Low	**Low**	**Moderate**	**High**	Comfort levels for employees, patients, visitors etc become untenable. Health and wellbeing impacts
	Decrease in summer rainfall and/or prolonged dry spells	Low soil moisture content and drought - soil hardening, cracking and destabilisation	Low	Moderate	Moderate	Yes	Moderate		Very Low	**Low**	**Moderate**	**Moderate**	Service provision impeded due to structural concerns
		Reduced water availability	Moderate	High	Very High	Yes	High	Potable water from mains supply	Very high	**Low**	**Low**	**Moderate**	Service provision impeded due to non-potable water restrictions
	Increased frequency, volume and/or duration of extreme precipitation events	Heavy rainfall	Low	Moderate	High	Yes	Low	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	**Low**	**Low**	**Low**	
		Flooding (fluvial, pluvial and standing water)	Low	Low	Moderate	Yes	Moderate	A Flood Risk Assessment and Drainage Strategy will be undertaken at the ES stage to allow for climate change to be accounted for in drainage features.	Low	**Low**	**Low**	**Moderate**	Service provision impeded due flood water impeding access or causing damage to hospital buildings and equipment
	Changes in soil moisture content coupled with increasing frequency and intensity of hot days	Ground movement and instability	Moderate	High	High	Yes	Moderate		Very Low	**Moderate**	**Moderate**	**Moderate**	Service provision impeded due to structural concerns
	Increased intensity of wind and storm events including high winds, lightning, wind-blown rain, dust storms and blizzards.	Lightning and lightning strikes	Low	Low	Moderate	Yes	Low		Very Low	**Low**	**Low**	**Moderate**	Service provision impeded due to power outage from lightning strike
		High winds	Low	Low	Moderate	Yes	High		Very Low	**Low**	**Low**	**Moderate**	Service provision impeded due to damage to hospital building and equipment

NEXT STEPS

In **Table 16**, of the 126 climate hazards assessed for the Proposed Development components, 48 were found to have a ‘moderate’, ‘high’, or ‘very high’ vulnerability. The climate hazards and Proposed Development components with a moderate, high or very high vulnerability will be taken forward for further assessment within the CCRA Risk Assessment which will inform the CRRR Impact Risk Assessment developed to support the ES.

Further engagement with the Planning and Design Teams will take place as the design evolves. To support the ES of the EIA, the CRRR Impact Risk Assessment will review and update the design measure where necessary further develop potential impacts. These potential impacts will be assessed against the likelihood of the impacts occurring and the consequence to the Proposed Development if they did occur to provide a final climate risk assessment.

ASSUMPTIONS AND LIMITATIONS

The UKCP18 projections have been used to infer future changes in a range of climate variables that may affect the vulnerability of the Proposed Development to climate change. At the time of writing, these represent the most up-to-date representation of future climate in the UK. The Climate Risk Indicator (CRI) has been developed using UKCP18 projections.

There are inherent uncertainties associated with climate projections and they are not predictions of the future. It is possible that future climate will differ from the future climate against which the Proposed Development has been assessed, depending on global emissions over the next century. A 'high' emissions scenario (RCP 8.5) across short, medium and long term time frames have been used to develop a baseline against which climate change risk has been assessed, this incorporates the design life of the Proposed Development.

Any further research, analysis or decision-making should take account of the accuracies and uncertainties associated with climate projections. It is also important to note that the analysis is based on selected observational data, the results of climate model ensembles and a selected range of existing climate change research and literature available at the time of assessment. Any future decision-making based on this analysis should consider the range of literature, evidence and research available at that time and any changes to this.

Some climate hazards are derived from combinations of climate parameters (for example drought and erosion are driven by changes in precipitation and temperature). For the purposes of the assessment climate hazards have been grouped under the primary climate parameter driver.



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Appendix D

2025 EIA Scoping Opinion

Appendix D – 2025 EIA Scoping Opinion

Huntingdonshire
DISTRICT COUNCIL

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Mr Paul O'Neill
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Suite LP59350
London
N1 7GU
United Kingdom

By email only

Our Ref: 25/70078/SCOP
Your Ref: --

2nd October 2025

Dear Paul

25/70078/SCOP: Environmental Impact Assessment (EIA) Scoping Opinion: redevelopment of existing hospital

PROPOSAL

The proposal relates to the redevelopment of Hinchingbrooke Hospital in Huntingdon.

The application site extends to 16.2 hectares which includes an area of greenfield land located directly to the east of the existing hospital which is currently in the ownership of Cambridgeshire Constabulary and National Highways (referred to as 'the Constabulary Land'). The applicant is currently in discussions to acquire the 'Constabulary Land' as part of the Proposed Development.

It is anticipated that separate planning applications will be pursued for the redevelopment of the existing Hinchingbrooke Hospital site and the Constabulary Land, however both will form part of the 'Proposed Development' and have therefore been assessed by the submitted Scoping Report.

A hybrid planning application is proposed, with the elements of the proposal split as follows:

- Full planning permission: demolition (excluding retained buildings), new 33kV Primary substation, temporary deck on the existing north car park, modular offices, access road, surface car park, associated site wide infrastructure, and 'People Hub' (comprising hospital-related ancillary office, research, admin and education facilities).

- Outline planning permission: new hospital buildings (up to 9 storeys), multi-storey car park.

REQUEST FOR A SCOPING OPINION

This Scoping Opinion is based on information provided to Huntingdonshire District Council ('HDC') in the form of an EIA Scoping Report dated August 2025 titled 'Hinchingbrooke Hospital Redevelopment EIA Scoping Report' ('the Scoping Report'), prepared by WSP on behalf of North West Anglia NHS Foundation Trust ('the Applicant'), document reference 70119931, along with the comments and opinions received through consultation with statutory consultees and other bodies.

This letter constitutes the Scoping Opinion of the Local Planning Authority (LPA) and seeks to clarify what the LPA considers the main effects of the development are likely to be and accordingly, the main topics upon which the Environmental Statement (ES) should focus.

In addressing the scope of the proposed ES, HDC has followed the guidance on the EIA regulations provided in the National Planning Practice Guidance (NPPG). Paragraph 35 of the NPPG states that the emphasis of the ES should be on the main or significant environmental effects and should be proportionate. Impacts which have little, or no significance will need only brief treatment to indicate their possible relevance has been considered.

In accordance with the 2017 Regulations, this Scoping Opinion does not preclude HDC from subsequently requiring the Applicant to submit further information in connection with any planning applications that may be submitted.

CONSULTATION

In providing this Scoping Opinion, relevant statutory and non-statutory authorities were consulted. The responses have informed this Scoping Opinion.

Responses were received from the following consultees:

- Environment Agency
- Lead Local Flood Authority
- National Highways
- Highway Authority (Cambridgeshire County Council)
- Natural England
- Ecology Officer
- Historic Environment Team (Cambridgeshire County Council)
- Historic England
- Conservation Officer
- Tree Officer
- Environmental Health
- Minerals and Waste (Cambridgeshire County Council)
- Landscape Officer
- Anglian Water
- Huntingdon Town Council
- Brampton Parish Council
- Urban Design

Consultation responses received can be viewed online through HDC's planning application system, quoting reference 25/70078/SCOP.

At the time of writing, no response has been received from the following consultees:

- Rights of Way (Cambridgeshire County Council)

If received, responses from those listed above will be forwarded to you.

Your Scoping Report proposes that the following topics are scoped out of the ES:

- Daylight, Sunlight and Overshadowing
- Water
- Wind microclimate

- Major Accidents and Disasters

Subject to the comments provided below and the provision of supporting information (detailed below), provided as standalone documents cross-referenced within the ES as appropriate, it is agreed that these topics can be scoped out.

This Scoping Opinion is structured to follow the chapters within the submitted Scoping Report. Pertinent issues raised by consultees are included in the relevant section.

COMMENTS ON SCOPING REPORT

1. Introduction

It is noted that the Applicant considers the proposals exceed the applicable screening thresholds under Schedule 2, paragraph 10(b) of the EIA Regulations ('Urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas'), and that, taking into account the scale of the development, the nature of the site, and the surrounding area, there is potential for significant environmental effects. HDC has screened the Proposed Development for EIA and agrees that the proposals constitute EIA development for the following reasons:

- Based on the scale and nature of the Proposed Development, there is a potential for significant environmental effects in relation to material resource consumption and waste generation and disposal during construction.
- The construction and operation phase of the Proposed Development will generate significant volumes of traffic. There are sensitive receptors for air quality and noise on site and in close proximity to the Development Site including residences, Cromwell Academy and Portholme SAC and SSSI. Significant effects for designated sites and human health, linked to air quality and noise, cannot be ruled out.
- The impact of the Proposed Development on the significance of multiple heritage assets (designated and undesignated) is likely to be substantial and complex.
- The scale and location of the Proposed Development mean that it will be highly visible in the local landscape. Significant landscape and visual effects cannot be ruled out.

Relevant development plan policies are listed at section 1.5 of the Scoping Report. In addition to those listed at paragraph 1.5.11, the following Huntingdonshire Local Plan to 2036 policies are also of relevance:

- LP13 Placemaking. The Proposed Development represents 'large scale major development' for the purposes of this policy and should be subject to a masterplanning process in accordance with the requirements of the policy.
- LP 29 Health Impact Assessment. The Proposed Development represents 'large scale major development' for the purposes of this policy and the design should therefore be informed by the conclusions of a full Health Impact Assessment.
- LP 32 Protection of Open Space. The purpose of this policy is to protect against the loss of open space. Open space take many forms including semi-natural areas. The 'Constabulary Land' is currently undeveloped and therefore consideration should be given to any amenity value currently provided by this land.
- LP36 Air Quality. The Proposed Development represents 'large scale major development' for the purposes of this policy.

The *Cambridgeshire and Peterborough Minerals and Waste Local Plan* was adopted in 2021 and should be reflected in the assessment of planning policy, in addition to the *RECAP Waste Management Design Guide SPD* which remains in effect.

Any revisions to the National Planning Policy Framework (NPPF) will need to be reflected. You should also monitor the Council's progress in preparing and adopting a replacement of the current Adopted Local Plan which, at the time of writing, envisages Preferred Options (Regulation 18) consultation in Autumn 2025 and Pre-submission Consultation (Regulations 19 and 20) in 2026, ahead of submission for Examination by the end of 2026.

2. Description of the site and the proposed development

It is noted that the maximum build height of the Proposed Development is referred to as being 'up to nine storeys'. It is not clear if plant is proposed on the roof of the building. Proposed maximum heights of all new above-ground buildings and infrastructure should be cited as both height AOD and height above ground level.

It is noted that on-site renewable energy generation (e.g. solar PV and wind turbines) will be explored. The ES should take account of any proposed on site renewables within its assessment (e.g. landscape and visual impacts, including the setting of historic landscapes/built heritage assets, noise and vibration, and any impacts on protected species).

3. Approach to EIA

The proposed approach to reasonable alternatives is noted. In addition to those listed as 3.3.2, the relocation of the hospital to an alternative site should be assessed as a reasonable alternative.

Unless the reuse and/or development of the land left vacant by the proposed scheme is demonstrably associated development within the meaning of the EIA regulations, there is no need for this to be considered within the assessment of reasonable alternatives or cumulative developments. Any such development would be subject to its own EIA screening and scoping requirements in due course.

It is noted that human health impacts are proposed to be assessed within relevant chapters of the ES. Paragraph 3.8.4 states that "there will be no standalone Health Impact Assessment (HIA) undertaken to support the EIA or planning application." Your attention is drawn to Local Plan Policy LP29. To satisfy Local Plan Policy LP29, the design of 'large scale major development' must be informed by the conclusions of a full Health Impact Assessment. It is recommended that a full Health Impact Assessment is submitted as a supporting document to be read alongside the ES and cross referenced within relevant chapters as appropriate.

It is noted that a screening assessment for Major Accidents and Disasters has been undertaken and based on the results of this exercise Major Accidents and Disasters has been scoped out from further assessment in the ES. This is accepted.

Other planning application documents proposed to be submitted alongside the ES are listed at Section 3.11. Please note that this Scoping Opinion identifies a number of supporting documents which will need to be submitted alongside the ES as part of any future planning application.

The Scoping Report notes that Portholme Site of Special Scientific Interest (SSSI) lies approximately 520m to the south east of the Site and Portholme Special Area of Conservation

(SAC) is approximately 720m south east of the Site. Special Areas of Conservation are European sites which are protected by the Conservation of Habitats and Species Regulations 2017 as amended (known as the Habitats Regulations). Where a project may affect European Sites, regulation 63 of the Habitats Regulations 2017 requires a prior assessment to be made by the relevant competent authority of such proposals. In addition to the Environmental Statement, a Shadow Habitats Regulation Assessment should be submitted by the Applicant to assist in determining if the proposal might affect the Portholme SAC.

In addition to Major Accidents and Disasters, it is noted that the following environmental factors are proposed to be scoped out of the EIA process:

- Daylight, Sunlight and Overshadowing (DOS). It is proposed that a DSO study will be conducted as a stand alone report to be read alongside the ES.
- Wind microclimate. It is proposed that a Wind Microclimate assessment will be conducted as a stand-alone report to be read alongside the ES.
- Water. Taking account of the baseline information and proposed mitigation measures, it is not anticipated that there would be any significant effects for Water. Therefore, it is proposed that Water is scoped out of the EIA.

Please refer to the comments below. It is agreed that these matters can be scoped out of the ES subject to the provision of further/supporting information.

Daylight, Sunlight and Overshadowing
The approach to scoping out this topic area is agreed, provided that this is addressed in the relevant related assessment documents submitted with the application

The provision of a DSO study as a stand-alone report, to be read alongside the ES is agreed. Appendix D of the Scoping Report (Daylight, Sunlight and Overshadowing Assessment) has been reviewed by the Council's Urban Design Officer. The proposed overview of baseline conditions, approach to assessment with potential impacts, methodology, metrics and criteria, determining magnitude of change, mitigation, limitation and assumptions is covered and follows UK British Standards.

Wind microclimate
The approach to scoping out this topic area is agreed, provided that this is addressed in the relevant related assessment documents submitted with the application

The Wind Microclimate Assessment, proposed to be submitted alongside the ES, is agreed and should be cross referenced as appropriate in the relevant ES chapters. It will compare the pedestrian-level wind environment around the Proposed Development against comfort and distress criteria and to the conditions of the existing Site. The study will need to pay particular attention to pedestrian access routes, seating areas, as well as building drop-offs and entrances.

A detailed Computational Fluid Dynamics (CFD) study is proposed to be incorporated within the Wind Microclimate Assessment to provide a reliable quantification of the pedestrian level and high-level terrace wind environment at locations such as pedestrian access routes, building entrances, and high-level terraces.

Mitigation for the effects of wind microclimate discomfort include canopies, barriers, planting and landscaping. Wind tolerant species of trees may provide shelter from both downward driven winds and horizontal winds around corners and passageways.

The use of CFD is welcomed. It is recommended that high-resolution CFD simulation to optimise design and arrangement of trees around the buildings to improve pedestrian comfort is applied to the Wind Microclimate Assessment. Different tree species in various tree array layouts, aiming to enhance wind comfort in tree landscapes and reduce the risk of high wind speeds, should be explored.

Water

The approach to scoping out this topic area is agreed; however, this is on the basis that it can be demonstrated that:

- Demand for potable water associated with the proposed development is comparable to the existing baseline demand associated with Hinchingbrooke Hospital. Demand management measures may be factored into the predicted demand for potable water associated with the Proposed Development.
- The Proposed Development will not result in additional foul flows to Huntingdon Waste Water Treatment Works (WWTW) compared to the existing baseline foul flows associated with Hinchingbrooke Hospital. On site measures for water re-use may be factored into the predicted foul flows arising.

As noted by consultees, the location of the Proposed Development is in an area of serious water stress and is within the catchment of Anglian Water's Huntingdon Water Recycling Centre (WRC), which is currently exceeding the dry weather flow element of its permit.

On the basis that demand for water resources/management is comparable to the baseline, no significant environmental effects are expected and therefore it is agreed that water can be scoped out of the ES. This should be evidenced within a standalone Utilities Statement to be submitted and read alongside the ES and cross referenced within the ES as relevant. HDC reserves its position to make further requests for necessary information at a later stage under Regulation 25 of the EIA Regulations.

Please note that the Environment Agency's consultation response provides details on discharge capacity at Huntingdon WWTW for your information.

The Environment Agency advise that the phasing of growth should ideally link to the timings of any planned new strategic plans to supply water from sustainable sources. Where this is not possible, consideration should be given to how the development can minimise any interim risks until new sustainable sources of water can be developed. Demand management measures will be essential to address water efficiency and therefore if water resources is to be scoped out of the ES the Environment Agency suggest that water efficiency is addressed separately through a Utilities Statement, prepared in line with the Anglian Water shared standards for Water Efficiency document. As advised, a Utilities Statement should be submitted as a standalone technical document to be read alongside the ES and cross referenced within ES chapters as relevant.

The water used during the construction phase needs to be considered separately to the water to be used during the operational phase of the project. This should be assessed as part of the Utilities Statement and Construction and Environmental Management Plan to be submitted alongside the ES.

Anglian Water have reviewed the Scoping Report and advise that whilst it is unlikely that a non domestic supply of water is required it is worth noting that there is no legal requirement for them to supply for this type of water usage where it might put at risk their ability to supply water for domestic purposes. Where new and unplanned non-domestic requests are received,

which exceed 20,000 litres per day (0.020 Ml/d) (this may be less dependent on the availability of water in that area) or where there is a cumulative impact from a significant number of smaller requests, there might be the need to decline, so as to protect existing supplies and the environment. As advised above, for water to be scoped out of the ES, it must be demonstrated that water demand is comparable to the existing baseline via the submission of a standalone Utilities Statement.

As noted above, this site is within the catchment of Anglian Water's Huntingdon Water Recycling Centre (WRC), which is currently exceeding the dry weather flow element of its permit. Anglian Water have advised that there is currently no capital growth scheme planned at this WRC. However, as this is a redevelopment of an existing operational hospital only the additional flows, above the current baseline, will need to be considered. Anglian Water note that the submitted Scoping Report states that wastewater requirements are not expected to be significant compared to the baseline. Any demand above the baseline will need to be considered as unacceptable due to the pollution risk to the receiving water body. However, high level discussions between Anglian Water and the applicant are on-going and the use of water efficient devices and possible on-site water re-use is being explored, this will help ensure there is no, or minimal additional flow. Further engagement with Anglian Water is required to required to assess the infrastructure requirements and wider reinforcement/investment needed to support the site coming forward and the results of this engagement should be reflected in the supporting Utilities Statement.

You are advised to submit a Tier 2 planning enquiry and a Pre-Development enquiry (PPE) with Anglian Water to allow detailed discussions regarding foul water flows. The PPE should be submitted in support of any future planning application.

Beyond water supply and wastewater treatment, if water is to be scoped put of the ES, any future planning application must also adequately assess flood risk and surface water drainage.

The LLFA expect a full flood risk assessment (FRA) and surface water drainage strategy to be submitted as a technical document to be read alongside the ES and . which must include:

1. How the proposed surface water drainage scheme has been determined following the drainage hierarchy
2. Pre-development run-off rates
3. Post development run-off rates with associated storm water calculations
4. Discharge location(s)
5. Drainage calculations to support the design of the system
6. Drawings of the proposed surface water drainage scheme including sub-catchment breakdowns where applicable
7. Maintenance and management plan of the surface water drainage system (for the lifetime of the development) including details of future adoption.

The FRA and surface water drainage strategy should be submitted as a standalone technical document to be read alongside the ES and cross referenced within ES chapters where relevant.

The Applicant must, as part of the surface water strategy, demonstrate that the requirements of any local surface water drainage planning policies have been met and the recommendations of the relevant Strategic Flood Risk Assessment and Surface Water Management Plan have been considered.

Huntingdon Town Council note that Ermine Street and parts of Stukeley Meadows are at medium risk of flooding, therefore an assessment of impacts and any mitigation for these areas should be specifically addressed. In accordance with NPPF paragraph 181, the FRA should demonstrate that flood risk is not increased elsewhere.

4. Air Quality

The inclusion of this chapter within an ES is supported. There are sensitive receptors, including residents, on site and adjacent to the development site. In addition, Portholme SAC and SSSI are located to the east.

The ES must assess all potential direct and indirect air quality impacts on sensitive receptors.

It is noted that:

- the air quality study area has been limited to within 2km of the Proposed Development. This will be reviewed at ES stage, when more detail is available;
- for assessment of the local air quality impacts due to changes in road traffic, the study area would be limited to within 200m of affected roads;
- Huntingdon AQMA is ~300–400m from the site, declared for NO_2 exceedances;
- Predicted air quality effects are largely confined to the construction phase, associated with emissions of dust and particulate matter and road traffic emissions. Trip generation, and therefore road traffic emissions, during operation is likely to be similar to the baseline and may be scoped out in the future (once traffic flow and routing data is available);
- An air quality assessment will be undertaken in accordance with the relevant legislation, policy and guidance;
- A Construction Environmental Management Plan (CEMP) is proposed to mitigate construction effects on air quality;
- Best practice mitigation for operational developments will be recommended including implementation of Travel Plans and provision of electrical vehicle charging points.

The Council's Environmental Health Officer has reviewed the Scoping Report and advises that the information regarding air quality is acceptable and welcomes that best practice mitigation for operational developments will be recommended. Current advice from public health experts is that the health impacts of air quality should be minimised, even if there is no risk that air quality standards will be breached. This is supported by both national and local planning policies promoting air quality improvements and minimisation of impacts. Therefore, even if the effect is judged to be insignificant, consideration is given to the application of good design and good practice measures, including:

- promoting active travel and ensuring good cycling and walking infrastructure (preferably away from roads) to reduce reliance on vehicle use,
- the provision of electric vehicle rapid charge points/infrastructure,
- access to public transport,
- good property insulation,
- low emission design.

The proposed CEMP and Travel Plans must be submitted to and approved by the LPA prior to any construction work.

Your attention is drawn to Natural England's advice on the scope of assessment required for air quality.

Impacts of air quality upon human health must be addressed within this ES chapter (noting that air quality is proposed to be scoped out of the *Socio Economics and Human Health* chapter of the ES). The assessment of air quality should be cross referenced within other relevant chapters of the ES including Ecology and Nature Conservation and Greenhouse Gas

5. Archaeology and Built Heritage

The inclusion of built heritage as a chapter within an ES is supported. For the reasons set out below it is considered that archaeology can be scoped out of the ES, subject to the submission of a standalone desk based assessment of archaeology, to be read alongside the ES and cross referenced as relevant.

On this basis, please note the comments below are provided separately for the topics of *archaeology* and *built heritage*.

We advise that supporting technical information relating to built heritage (e.g. desk-based assessments, reports etc) should be included as technical appendices to the ES.

Archaeology

It is noted that:

- An assessment of aerial photography covering the site, that dated to the 1940's and 1950's showed medieval ridge and furrow covering the southern area of the site;
- Trial trenching undertaken in the northern section of the site in 2001 (ahead of development at Hinchingbrooke Hospital) revealed medieval and post-medieval land use in the form of ridge and furrow field divisions throughout the trenches. The trenching also revealed three ditch features which pre-dated the medieval period;
- The impact of construction activities on archaeology is proposed to be scoped into the ES.

Paragraph 207 of the National Planning Policy Framework states that 'where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation'.

Records held by the Cambridgeshire Historic Environment Team (CHET) indicate that the development lies in an area of archaeological potential. Archaeological investigations to the north-west have revealed evidence for a Late Iron Age to Roman settlement which included inhumation and cremation burials (Cambridgeshire Historic Environment Record reference MCB14554), as well as Late Iron Age field systems to the southeast of the settlement (CHER ref. MCB17629). A Middle Iron Age settlement is located to the north, with a pit alignment, furnace and large quantity of industrial and domestic finds (CHER ref. MCB14551). Earlier prehistoric features and finds were also located during other phases of archaeological investigations within the same area (CHER ref. MCB15903 and MCB14553). To the south-east of the development on the Constabulary Land, further Iron Age features were identified, accompanied by both earlier prehistoric and Roman and medieval finds (CHER ref. MCB17935).

The Development Proposal itself sits within an area of ridge and furrow, as noted within previous archaeological investigation within the site complex throughout its development (CHER ref. MCB14813). Ridge and furrow evidence is also present to the north and north-east.

Grade I listed Hinchingbrooke House is located to the south and has its origins as a Benedictine nunnery (CHER ref. MCB3378) and has associated listed elements to its complex.

However, no designated archaeological remains of national importance (e.g. those listed as scheduled monuments) are listed in close proximity to the application area. Whilst commissioned field investigations in adjacent properties found archaeological remains of local to regional importance, they did not reveal remains of national importance.

In this context CHET consider that the Development Proposal is not likely to have a significant impact on the statutorily protected archaeological components of the historic environment.

Consequently, a desk based assessment is considered to be sufficient for the assessment of archaeological impacts at this stage, which can be submitted as a technical appendix to the ES and cross referenced within relevant chapters. Associated archaeological evaluation, that would allow for further investigations and preservation by record (publication), can then be secured by condition of any planning permission.

Built Heritage

It is noted that:

- The Proposed Development site lies within the perimeter belt that historically enclosed Hinchingbrooke Park, an important component of the setting of the grade I listed Hinchingbrooke House and ancillary listed buildings. Hinchingbrooke Park is also a non-designated asset in its own right. In addition, the park and the historic assets within are important components of Huntingdon Conservation Area;
- The Site and the Constabulary Land are located within the Huntingdon Conservation Area. Within the conservation area there are 123 individual designated heritage assets comprising four scheduled monuments, five Grade I listed buildings, eight Grade II* listed buildings, and 106 Grade II listed buildings;
- The Scoping Report suggests a 500m setting study area and assumes that assets outside of the 500m study area will not be impacted;
- The impact of the construction and operational phases on built heritage is proposed to be scoped in, due to physical impacts to Hinchingbrooke Park and Huntingdon Conservation Area;
- The impact of construction activities on the setting of built heritage assets is proposed to be scoped out as the construction impacts are temporary and no significant effects are anticipated;
- The impact of the operational phase on the setting of built heritage assets is proposed to be scoped in.

The Council's Conservation Officer advises that the impact of the Proposed Development on the significance of multiple heritage assets (designated and undesignated) may be substantial and complex, and the possible inclusion of the 'Constabulary land' may result in further enhanced impacts. The Council is under a statutory duty to pay special regard to the preservation of listed buildings and their settings. Special regard must also be paid to the preservation and enhancement of the affected Conservation Area. The EIA will be required to provide sufficient information and justification to enable the Council to meet these duties. The public benefit of the proposals will be considered as part of the application.

Historic England have confirmed that the Proposed Development may cause harm to the significance of Hinchingbrooke Park and would also likely result in harm to the significance of Hinchingbrooke House through development within its setting. These impacts would in turn

result in some harm to the significance of the conservation area. The degree of harm to the significance of the grade I listed building, the conservation area and other designated assets is likely to be moderate to high. This harm needs to be appropriately assessed by the ES so that it can be given appropriate weight in the decision-making process.

In addition to designated assets, the ES must also consider the potential impacts on any non-designated features of historical, architectural, archaeological or artistic interest, since these can also be of national importance and make a notable contribution to the character and local distinctiveness of an area and its sense of place.

With regards to built heritage you are advised that:

- During pre-application discussions in 2024 Historic England agreed an appropriate level of assessment for the proposals. This however needs to be updated and expanded to reflect the now increased massing of the hospital and car parks;
- Assessment of the potential impacts of the development should be carried out in accordance with established policy and guidance, including the National Planning Policy Framework and Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets.
- Whilst standardised EIA impact matrices are useful, they are a broad-brush tool that may not be sufficiently sensitive to reflect the complex and interrelated nature of this historic environment. The assessment of impact and significance of heritage assets is more nuanced and requires a holistic understanding (including factors such as references in literature and Arts, noise, traffic, lighting, sound) which cannot be achieved solely by a scoring system. Qualitative and expert judgement is required. Historic England therefore recommends that matrices should be in a technical appendix to the ES and seen only as material to support a clearly expressed and non-technical narrative argument within the Heritage Section of the ES;
- The ES should use the ideas of benefit, harm and loss (as described in the NPPF) to set out 'what matters and why' in terms of the heritage assets' significance and setting, together with the effects of the development upon them;
- It is noted that the Scoping Report proposed that effects on heritage assets will be considered against the mitigation strategy (to avoid, reduce, compensate, or to consider remediation), however as the parameters of the site and the heritage assets are so fixed the scope of these options may be limited. Historic England advise that any mitigation proposals include considered plans for improved public presentation and interpretation of the heritage of the site and its immediate surroundings;
- The proposed 500m study area is not considered to be appropriate having regard to the Zone of Theoretical Visibility (ZTV) (which extends to 6km and indicates visibility across a substantial portion of the wider area), and the massing of the proposed building (9 storeys in height) which will extend beyond the existing tree line. It is expected that the extent of the proposed study area is of the appropriate size to ensure that all heritage assets likely to be affected have been included and can be properly assessed. HDC's Conservation Officer considers that a 2km study area would be appropriate;
- The proposed assessment of specific assets outside the study area is welcomed but should not be limited to assets the applicant considers to be particularly significant. The ES should consider all assets to enable a full picture of the historic environment and these can be scoped out, if necessary, at a later stage;
- It is important that the impact of the Proposed Development is well illustrated by the ES and this can be achieved through photomontages, visualisations or similar techniques. Historic England recommend that the LVIA provides heritage specific viewpoints with both photographs and photomontages that support the results of the

heritage assessment. HDC's Conservation Officer has provided initial guidance on appropriate heritage viewpoints and it will be of benefit if the development could be shown as wireframes on photomontages. Please note however that the experience of an individual heritage asset is often not contingent upon a specific viewpoint but on successive cumulative viewpoints. The images in these photomontages will therefore be informative to the process but not necessarily definitive. In addition, the setting of a heritage asset is not just restricted to visual impacts. Other factors should also be considered including noise, light and traffic. Where relevant, other sections of the ES should be cross referenced.

Your attention is drawn to Natural England's advice on the scope of assessment required for heritage landscapes.

6. Ecology and Nature Conservation

The inclusion of this chapter within an ES is supported.

It is noted that:

- The proposed Ecological Zone of Influence (EZoI) for ecology and nature conservation features is set out in Table 6-1 of the Scoping Report;
- There are two internationally designated sites within 10km of the Site, (including 30km for bats), and three nationally designated sites within 2km of the Site;
- A UK habitat survey within the Proposed Development Site has been undertaken with further survey work scheduled;
- An Arboricultural Survey Report has been produced;
- With the exception of otter and invertebrates, all other designated sites, habitats and protected species are scoped into the ES.

The proximity of Portholme SAC and SSSI (within 1km) is a key consideration. The inclusion of Eversden and Wimpole Woods SAC (barbastelle bats) within the 30km zone is appropriate. The potential for air quality impacts from construction and operational traffic must be robustly assessed and cross referenced with the *Air Quality* ES chapter.

As already noted above, given its proximity, a Shadow Habitats Regulation Assessment must be submitted by the Applicant to assist in determining if the proposal might affect any European sites.

It is noted that consultation with Natural England and CPERC data has informed the baseline. Please note that CPERC data is valid for 18 months and therefore reconsultation may be required prior to submission of any future planning application, to ensure up to date records are used.

The desk study and field surveys undertaken to date have been reviewed by the Council's Ecologist and are considered appropriate. The desk study and survey results should be provided as a technical appendix to the ES.

The approach to Biodiversity Net Gain (BNG) should be clarified further. Surveys should be conducted within the survey vegetation season (May to September) or where this is not possible, a precautionary approach should be taken. It is recommended that Applicant submits the completed Statutory Biodiversity Metric and map detailing the proposed post-intervention BNG values and habitats as a technical appendix to the ES. Though they are not

legally required at this stage, it is beneficial to both the LPA and developers to find and solve associated issues as early as possible.

Future lighting plans should aim to improve on the current lighting schemes impacts on surrounding commuting and foraging habitats with the creation of dark corridors, low-level lighting buffer zones and other mitigation strategies as outlined in the ILP and BCT's Guidance Note GN/08/23: Bats and Artificial Lighting at Night.

Table 6.2 of the Scoping Report has been reviewed by the Council's Ecologist and the elements scoped in for further assessment are considered appropriate and proportionate. Otters and invertebrates are reasonably scoped out based on current data, but this should be revisited if new records emerge.

The followings recommendations were provided by the Council's Ecologist to inform the scope of this ES chapter:

- Ensure all outstanding surveys and assessments are completed and reported in full.
- Update relevant surveys in line with CIEEM guidelines (Advice Note (April 2019*) On the Lifespan of Ecological Reports and Surveys*) if ecological reports are to be submitted after the survey data has expired.
- Include detailed BNG calculations and mapping.
- Include proposed lighting strategy prior to determination.

Your attention is drawn to Natural England's advice on the scope of assessment required for biodiversity and geodiversity, including an assessment of climate change impacts.

Arboriculture

Whilst arboricultural effects are not considered to warrant assessment as a specific standalone ES chapter, they should be clearly and appropriately considered in the relevant ES chapters including ecology, landscape (etc), particularly where tree cover is relied upon for any mitigation.

The Council's Tree Officer notes that there are a number of large mature Veteran Oak trees on the Proposed Development site which will need to be avoided. As Veteran Trees they will be entitled to 15xDBH (Girth) as Root Protection Area's, which could significantly limit the route of access. As 'irreplaceable habitat' these will have to be worked around. In addition, there are ponds and other significant Wildlife features throughout the wooded area that need to be carefully considered in relation to the access route and will have BNG implications.

There are large mature trees on site, including the northern corner of the Constabulary Land which has a number of feature trees within it. The proposed design should avoid areas within falling distance of mature trees and avoidance of the woodland belts wherever possible. A small development free buffer around the perimeter of trees will help to protect the rooting environment but also to reduce the pressure for pruning trees back.

The ES would need to demonstrate that damage to the existing trees has been avoided wherever possible, mitigated with damage reducing construction techniques and only once these have been exhausted, would replanting or compensation be considered.

The main parking area should have robust species of trees planted within appropriately sized planting pits to provide rainfall interception, shading and reduce the visual impact of the

tarmac area. Effort should be made to plant large canopied, high biodiversity, long-lived species that fix significant volumes of Carbon Dioxide and supplement the canopy cover of HDC.

A full Arboricultural Impact Assessment, Tree Protection Plan, and Method Statements will need to be submitted in support of the ES as technical appendices and cross referenced within the ES as appropriate.

Your attention is drawn to Natural England's advice on the scope of assessment required for Ancient Woodland, ancient and veteran trees.

7. Greenhouse Gas

The inclusion of this chapter within an ES is supported.

It is noted that 'climate change' more broadly has not been identified as being scoped out, but neither is it referenced as a standalone environmental topic to be scoped in.

Natural England has advised that the ES should identify how the development affects the ability of the natural environment (including habitats, species and natural processes) to adapt to climate change. This should include an assessment of the impacts on the vulnerability or resilience of a natural feature as well as impacts on how the environment can accommodate change for both nature and people. Nature-based solutions should be considered to address impacts. The ES should also identify how the proposed development impacts the natural environment's ability to store and sequester greenhouse gases.

A whole life Greenhouse Gas (GHG) assessment is proposed and should be provided as a technical appendix to the ES. A GHG assessment should include:

- A whole life GHG assessment showing construction, operational and decommissioning GHG impacts, including impacts from change of land use.
- An explanation of the steps that have been taken to drive down the climate change impacts at each of those stages.
- Measurement of embodied GHG impact from the construction stage.
- How reduction in energy demand and consumption during operation has been prioritised in comparison with other measures.
- How operational emissions have been reduced as much as possible through the application of best available techniques for that type of technology.
- Calculation of operational energy consumption and associated carbon emissions.
- Whether and how any residual GHG emissions will be (voluntarily) offset or removed using a recognised framework.
- Where there are residual emissions, the level of emissions and the impact of those on national and international efforts to limit climate change, both alone and where relevant in combination with other developments at a regional or national level, or sector level, if sectoral targets are developed.

It is noted that GHG emissions from decommissioning, at the end of the design-life of the Proposed Development have been scoped out of the ES. This is because expected timescales for decommissioning are so far into the future that there is insufficient certainty about the likelihood, type or scale of emissions activity to determine their likely magnitude, even if they take place at all. This is accepted.

With reference to the judgement in the case of *R (on the application of Finch of behalf of the Weald Action Group)(Appellant) v Surrey County Council and others (Respondents)* there is not the same certainty of greenhouse gas emissions as featured in *Finch* from the redevelopment of a hospital, which the Court found would be inherent to an oil extraction scheme. Accordingly, an assessment of downstream greenhouse gas emissions will not be required within the Environmental Statement, provided that this is addressed in the relevant related assessment documents submitted with the application.

8. Ground Conditions and Contamination

The inclusion of this chapter within an ES is supported.

It is noted that a Preliminary Risk Assessment Report has been undertaken and discussions have been held with the Environment Agency and HDC Contaminated Land Officer.

This chapter of the Scoping Report has been reviewed by the Council's Environmental Health Officer who finds it acceptable with regard to land contamination.

Controlled waters are identified by the Scoping Report as a receptor which could be impacted by potential sources of contamination within the site and it is noted that potential significant impacts on controlled water receptors will be assessed for the construction stage. This is welcomed. The Site is located within the Great Ouse Nitrate Vulnerable Zone (NVZ) in relation to surface water and the Huntingdon River Gravels NVZ in relation to groundwater. A number of water dependent protected nature conservation sites have been identified as failing condition due to elevated nutrient levels and nutrient neutrality is consequently required to enable development to proceed without causing further damage to these sites.

As noted above, the Portholme Special Area of Conservation (SAC) approximately 720m south east of the Site. Any potential impacts upon the Portholme SAC should be assessed by the ES, cross referenced between relevant ES chapters and factored into the accompanying Shadow Habitats Regulation Assessment.

If the Proposed Development is likely to affect Nutrient Neutrality, Natural England require the ES to take account of any strategic solutions for nutrient neutrality or Diffuse Water Pollution Plans.

In addition, the Environment Agency advise that the Water Framework Directive (WFD) is the primary driver used to measure environmental impact and development should not negatively affect any WFD waterbodies. New developments should not detrimentally affect local water features (including streams, ponds, lakes, ditches or drains) this includes both licensed and unlicensed abstractions. Any disruption to surrounding abstraction licenses during and after construction must be avoided or mitigated. There are 6 abstraction points, 1 abstraction reach and 3 abstraction areas within approximately 5km radios of the site. The ES must demonstrate that these will not be affected by the development with reference to the WFD.

Further discussions with Anglian Water are required with regard to wastewater and should be reflected in the standalone technical Utilities Statement to be submitted alongside the ES. The ES must adequately assess any contamination risks to the receiving water body with cross reference to standalone technical documents including the Utilities Statement and FRA as relevant.

9. Materials and Waste

The inclusion of this chapter within an ES is supported.

The Scoping Report has been reviewed by Cambridgeshire County Council in its role as the Minerals and Waste Planning Authority. The scoping in of material use and waste generation and disposal is supported.

Given the scale of the proposed development there is likely to be a significant need for materials during the construction phase (particularly soil arisings in the event of any basement level for the new hospital building). Consequently, it is agreed that this topic should be scoped in and a chapter included within the Environmental Statement which makes an assessment of the materials required to construct the development and their potential source; the volume of likely waste arisings during the construction phase, including its methods and locations of disposal.

It is noted that consumption of material resources and generation and disposal of waste during operation is proposed to be scoped out. The new hospital will maintain the existing level of service provision and will therefore be of a similar floorspace and scale to the existing hospital, with comparable staff numbers and patient capacity. Therefore, it is expected that there would not be any increase in quantities of solid waste generated during the operation of the new hospital buildings. Whilst it is anticipated that some waste will be generated (such as welfare waste from employees and visitors' activities, and construction and demolition waste from maintenance and repair activities), the volumes generated are not anticipated to be large and therefore will not result in likely significant effects. Furthermore, the application of the waste hierarchy will be applied to any waste in line with legislative requirements; particularly disposal of clinical and bio-medical waste. Subject to demonstrating this (e.g. via a Waste Management Strategy provided as a technical appendix to the ES), the scoping out of material resources and generation and disposal of waste during operation is accepted.

As noted above in relation to the relevant planning policy context, please be aware that the Cambridgeshire and Peterborough Minerals and Waste Local Plan (2021) forms part of the adopted development plan for HDC. The site is not located within a Minerals Safeguarding Area.

In addition, the *RECAP Waste Management Design Guide SPD* remains in effect.

Your attention is drawn to Natural England's advice on the scope of assessment required for soil resources. This will be of particular relevance in the event that a basement level is proposed for the new hospital building.

10. Noise and Vibration

The inclusion of this chapter within an ES is supported.

It is noted that the locations to be used for baseline sound level measurements have been agreed with HDC Environmental Health Officers.

It is noted that construction vibration has been scoped out due to the separation distances between the proposed works (including demolition) and residential receptors. HDC's Environmental Health Officer has raised no objection to this.

This chapter of the Scoping Report has been reviewed by the Council's Environmental Health Officer who finds it acceptable with regard to noise.

11. Socio Economics and Human Health

The inclusion of this chapter within an ES is supported.

It is noted that the study area for economic impacts is proposed to be the Cambridgeshire labour market catchment area, whilst the study area for human health is proposed to be the local authority area of HDC.

It is noted that human health impacts associated with air quality, landscape/townscape and tranquillity, noise and traffic and traffic and transport are proposed to be scoped out of this chapter. This is on the basis that each of these impacts will be assessed by other chapters of the ES. This is accepted.

The proposed scope for Socio Economics and Human Health is acceptable.

Your attention is drawn to Natural England's advice on the scope of assessment required for 'connecting people with nature'. Measures to help people to better access the countryside and connect with nature can contribute to health objectives and should be considered in other supporting documents (e.g. Design and Access Statement) and cross-referenced within the ES as appropriate.

12. Transport and Access

The Scoping Report suggests that assessment of the transport impacts will be presented in the ES or accompanying Transport Assessment.

For the avoidance of doubt, the inclusion of a Transport and Access chapter within an ES is supported and should be cross-referenced with a Transport Assessment submitted as a technical appendix to the ES.

It is noted that abnormal loads are scoped-out of the assessment, as no abnormal loads are expected during the construction and operational periods of the Proposed Development. All other elements relating to transport and access are scoped in for assessment.

Cambridgeshire County Council in their capacity as Highway Authority were consulted and confirm that a full Transport Assessment will be required to accompany any forthcoming planning application so that the transport implications of the development can be understood. The Transport Assessment should form the basis of the ES chapter on Transport and Access and any assessment of wider environmental consequences within the ES should be consistent (and cross reference) with the data contained in the Transport Assessment.

It is recommended that the scoping of the Transport Assessment is discussed in detail with County Council Transport Assessment and Highway Officers prior to any application being submitted. Whilst the Highway Authority have been in attendance at two pre-application meetings facilitated by HDC, the Highway Authority offer their own pre-application service which should be utilised.

The Transport Assessment will indicate the most appropriate forms of junction based on the capacity/ impact of the network. Any new junctions will need to be designed in accordance with DMRB criteria and any form of junction other than simple T junctions will require appropriate safety audits.

In addition, any submission will need to include the following (for agreement with the Highway Authority):

- a comprehensive construction traffic management plan (CTMP) through all phases of construction to be agreed with the Highway Authority. Including (but not be limited to) onsite parking and storage of materials, routes to sites and timings of deliveries during construction and operation (including to and from the A1) and measures to minimise delivery of construction materials during peak periods including avoiding school pick up and drop off times.
- Travel Plan;
- Comprehensive Car Parking Management Strategy for the site.

The Highway Authority has not provided comments on the scope of the Transport Assessment and other supporting highway documents at this time. Further engagement with the Local Highway Authority is recommended prior to the preparation of these supporting documents.

National Highways is the strategic highway authority for the Strategic Road Network (SRN), including the nearby A1 and A14 trunk roads. National Highways request that account is taken of the interaction of the site with the SRN, principally the A1, as well as identifying any measures that may need mitigation. The assessment should be undertaken in accordance with DfT Circular 01/2022; (or subsequent iteration so the document) and informed by National Highways 'The Strategic Road Network: Planning for the Future' (2015), the National Planning Policy Framework and Planning Practice Guidance.

National Highways require that the following information is included within the ES and Transport Assessment:

- A vision as per DfT Circular 01/2022;
- Relevant national and local policies;
- Summarise existing baseline conditions;
- Project details including traffic distribution and trip generation (construction and operational);
- Identify any necessary mitigation;
- Assessment of Committed Developments including their cumulative impacts;
- Summarise the findings and provide an overall conclusion.

National Highways should be consulted early during the Transport Assessment scoping process.

National Highways agree with the inclusions of SRN junctions within the Study Area. The Applicant should provide information on the trip distribution, including flow diagrams which include the junctions within the SRN in the vicinity of the Site. If the development generates 30+ two-way trips during peak hours at any SRN junction, a capacity assessment is required.

Huntingdon Town Council request that traffic (including construction traffic) impacts on Hinchingbrooke Park Road, Parkway, Views Common, A141, A14 and A1 should be adequately assessed, including if there are access restrictions from car accidents etc.

Huntingdon Town Council ask for strong measures to be included in the Travel Plan to support public transport (including close working with the bus companies on routing), walking and cycling (including covered, lockable, camera covered bike storage and changing facilities).

Notwithstanding this, it is accepted that lots of people will still travel by car and therefore adequate onsite parking is essential.

13. Landscape and Visual

The inclusion of this chapter within an ES is supported

Pre-application landscape advice has previously been provided by HDC's Landscape Officer. An LVIA was recommended with utilisation of ZTV including suggestions for 22 agreed representative viewpoints within the 6km study area. Conservation Colleagues are deferred to with regards to the assessment of heritage assets associated with the proposal, which will require specific viewpoints for assessment.

It is noted that survey work to complete the baseline is ongoing and is expected to be completed by the end of 2025.

There are numerous open green spaces and accessible landscapes throughout the study area which have been identified and listed in the Scoping Report. Also included are private outdoor recreation facilities, Public Rights of Way (including long distance footpaths), National Cycle Routes, settlements, highways and roads and the East Coast Main Line Railway. This is welcomed. Your attention is drawn to Natural England's advice on 'connecting people with nature'.

It is welcomed that the Scoping Report includes reference to published landscape and townscape character studies by Natural England, CCC and HDC which will inform the baseline for the assessment of effects on landscape character (at national and local levels) and townscape.

Table 13-1 of the Scoping Report lists elements scoped in or out of further assessment. HDC's Landscape Officer generally agrees with the justifications for elements which have been scoped out, which is fundamentally due to lying outside of the ZTV.

The methodology proposed for the assessment of landscape and visual effects is considered to be thorough and follows the current Landscape Institute Guidelines (GLVIA3 2013).

Your attention is drawn to Natural England's advice on the scope of assessment required for landscape and visual impacts.

14. Cumulative Effects

The ES must assess combined impacts with other existing, approved, or foreseeable projects. The following types of projects should be included in such an assessment (subject to available information):

1. Existing completed projects;
2. Approved but uncompleted projects;
3. Ongoing activities;
4. Plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
5. Plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

In addition to those listed at Table 14-1 of the Scoping Report you attention is drawn to the following allocated sites / planned projects within 2km of the site (correct at the time of writing):

- Alconbury Weald (allocated in the adopted Local Plan);
- RAF Alconbury (allocated in the adopted Local Plan);
- Ermine Street (allocated in the adopted Local Plan);
- West if Railway, Brampton Road (allocated in the adopted Local Plan);
- Land at Edison Bell Way (allocated in the adopted Local Plan);
- Huntingdon Racecourse (allocated in the adopted Local Plan);
- Brookfield Farm, Ermine Street, Great Stukeley, Huntingdon. EIA Scoping request for major scale employment development (25/70019/SCOP).

Huntingdon Town Council note that Huntingdon is expected to grow substantially. HDC is currently preparing a full update to the adopted Local Plan. The Preferred Options Local Plan (draft plan) consultation is scheduled for Autumn 2025 and will identify proposed sites/areas for the delivery of new homes and jobs. Any progress to the emerging Local Plan will need to be reflected in the ES, both as a whole and within its individual chapters

15. Structure of ES and Technical Chapters

Noted.

16. Appendices

Appendix A – Figures
Appendix B – MA&D Screening
Appendix C – Wind Microclimate Assessment
Appendix D – Daylight, Sunlight and Overshadowing Assessment
Appendix E – Climate Risk and Resilience Report

Noted. Comments are provided on these documents where relevant elsewhere within this Scoping Opinion. Where topics are agreed to be scoped out of the ES (e.g. MA&D, wind microclimate and Daylight, Sunlight and Overshadowing), technical reports should be submitted as standalone documents cross-referenced within the ES as appropriate.

This Scoping Opinion does not prevent the Local Planning Authority from making further requests for necessary information at a later stage under Regulation 25 of the EIA Regulations.

I trust the above is of assistance. If you wish to discuss this matter further please contact the Case Officer, Hollie Renney on hollie.renney@huntingdonshire.gov.uk.

Yours sincerely



Clara Kerr
Chief Planning Officer

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